SILVER/LEAD

Sarah Jones

LOST ROCKS

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COSMOLOGY
AESTHETICS
experience
abstraction
METAPHYSICS

She lies calmly amongst her abusers. Even with their machines

I am digging a hole. I had thought that the hole would be around a metre deep, but already, at thirty centimetres, the ground is harder than I'd planned. I had planned (plans for the Earth?) that the Earth would submit to this unannounced displacement. Looking into the poor excuse that is the beginnings of my hole, I consider that the earth might have had other plans. The soft burn of frustration at dirt that will not heed my effort is rising in my cheeks. Two types of scarlet exertion flush my face. I'm probably also sunburnt; three. I stop digging. Hot from the inside and the outside, I throw the shovel down, the short unsatisfying thud it makes does nothing for what feels like an inherent specie-al inferiority. The dirt is too hard, the sun is too hot, I have no impact of the scale that I had imagined. I watch as two drops of sweat, accumulations of consumption, digestion and action, fall from my brow and into the hole. Two drops made of water and salt and the sunshine that burns the back of my neck. Two drops, as concrete as the idea of emptiness with which my hole is filling.

they can't bear her winter temperament; can't rip so carelessly

If I could write anything, it would be a cosmology. To write a cosmology you have to have an idea about everything. All of the space taken up by all of the things and the spaces they leave when they're gone. But also all of the non-things, as well as the space where the non-things aren't, but could've been, had they become things at some point. You have to take potential, chaos, disappointment, and lies into account; and then take them into account twice again so that you get them in the past, and in the future. A cosmology is a map, a model, an account, and a forecast —and most important— a cosmology is a whole.

I switch tools. The mattock handle is unpleasantly old and dry. It absorbs the moisture from my skin as it extends outwards from my body and I can feel it rubbing into blisters by the fifth strike. My right arm is long on the upward swing; my left arm meets it in extension. Both arms stretch out and find one another on the handle for the downward drive. The crack of the metal on the rock is a shattering re-introduction

into her with the icy-rain that comes in sideways and cuts at

of two things, exhumed, to one another. The mattock's heavy metal head remembers its place in the earth. The contact shoots up through my forearms, unsettling my elbows and landing in my shoulders. The mattock's memory of the earth that bore it is pressed into my body with every crack. It suffocates face down in the earth whilst my muscle memory learns its past. The mattock is not an imposter to the underground. It is unafraid and the earth yields. They know each other and each blow marks a small, smile-like opening for old friends to get under one another's skin. What comes of the tangling of their bodies — the force of their remembering — is the becoming of a hole — a cosmology is a map, a model, an account, and a forecast — the beginning in the end, a black hole. A cosmology is written from the event horizon. It should detail completely the things that are too small to be seen, too quiet, or too far away. Equally, things that are beyond scale. Things so big that they must take up space *and* time — like the big bang, still banging. A cosmology must be constructed from all of the things that you can retrieve from

the corners of their unappeasable mouths. They are always

memory, that take up the whole of the present,
but are bigger than this present, *since they have*
come from

timid in winter and they temper their approach. She uses

somewhere else the people are carrying torches. Tiny silver grains of light spray weightlessly around the cylinders of the beams. Silky dust falls like sea spray inside the lucid columns reaching upwards into the bottomless sky. The white light stops the stars from shining and everything is illuminated to blind. Pointed into the scrub on either side of the bush track, the torch beams soften as they find things. They become sluggish, they spill out over their infinite straight silver sides, and their light seems to yellow a little. Circular coffee cup stains break over the trunks of the gums and pick out the small, paired, earth-bound stars of the possum's frightened eyes. Everything is crunchy under my runners. I look down at my brightly coloured shoelaces that are trying to stay red in the darkness. My dad has double knotted them into small sculptural balls that bounce a little as I walk. He is walking in front of me. I take five four-year-old steps for each one of his. My mum is behind me, carrying my brother. I am dressed in a ski suit and I can feel my puffy polyester arms slipping over the sides of my puffy polyester ribs. I'm mute with expectation. I barely look

the respite to reach out in every direction and she tries to

when my dad points out the possums, frozen in his spotlight or someone else's. It's so exciting to be here in the dark.

The train of people ahead of us round a bend. I step off the path and tilt my head sideways so that I can see past my dad. The crowd drops away one-by-one at the curve of the path like lemmings into the dark throat of the rough scrub. Half the town has disappeared ahead of me, a procession of neighbours and butchers and writers and rangers. A long street of not-so-strangers, snaking like the river, up the bush track to the top of the hill. Night's secrets are broken by whispers; we are respectfully silent mourners in all of its black. We are preparing. The humming warmth of a hundred bodies puts heat on the rise of the hill.

Between the river where we swim in summer and the more deliberate ranges, the hills here roll out softly with age. It is hard to imagine them as young, as pubescent volcanos or as proud adult mountains. The hills don't tower or peak,

draw herself tall again. She pushes her face into the pillows

they're not for scaling and they're too tired for faces. They roll in one another's company, having grown so old together that they're no longer completely separate and they rest on each other's shoulders, heavy with age, as if they had died together, just like that, admiring the view. And they are beaten: marked with the pock holes left by the mines, small barren craters, sinkholes for fortunes, pre-cut graves for drunk looters and sweating thieves. And too many of the tall trees have been taken: the ridges have started to sharpen like dry bones under sagging skin. The hills' old bones are the quartzite intrusions forced upwards by the pressure of the fold. The crystalline basement deep in the Earth is ruptured to fault. Earth is pushed against earth and every small joy presses into an anticline that might catch the afternoon sun, and every small loss is a syncline that might be filled by a creek. Freed from the ruthless gnarling of the eucalypt roots, the topsoil has been washing away in secret with the spring rain. Silky and sodden, it has slipped out quietly, tiptoed down into the valley, and looked for the river to leave in. The quartz

of the clouds that gather at her crown. She screams into the

hills are balding and the pieces of a million-year-old earth, that were left because they had no value, have started to break the skin of the thinning clay shift. And the hills crack white and decay.

At the top of the hill in the swollen darkness every star is a wineglass cracking in the boiling water of the black sky. Every star is a millionth of a second, a pinging so high pitched it suggests a frequency of a hairline fracture that is too delicate to be accompanied by real sound. We are all soft looks so as not to break those tiny stars, as we patchwork the hard ground with the blankets we share. We grow steadily silent waiting in the darkness on the razor's edge of the quartz beneath us as the hill holds its breath for eons. And the rocks in the sky might be the same as those under my four-year-old-feet, made by the young stars at the edge of the solar system that burst with occasional intensity. They are ten times brighter for a few months a year. They pulse outwards, touching with all of their glow the cold in their gravitational pull. They shine so

raving wind that tears at her heavily sloped shoulders. They

brightly that they can put something like quartz in comets. Silicates made in their ebullient heat are dusted onto things made of ice. Things that are never warm are finely covered with pieces of suns. Burning terrestrial chains lie softly across alien bodies like impossible strings of gold in quartz, or the lines of a sunset on a black Southern Ocean; and scientists are confused, and astronomers and geologists debate.

We are waiting in the darkness, for a darkness deeper still. A black that is hollower than is nameable. A black that is so heavy that as it races it can only collect light. The comet will explode, sacrificing its freezing edges to protect the inconceivable fullness of nothing that is its dark heart. Darkness is made of the light that it cannot reflect. The wet sparkling tar that is poured into the scarred roads around here reflects only seven per cent of the sunlight that hits it in the frosty mornings. The cores of the rocks in the sky, that cut the arcuate of a single lifetime for a billion years, reflect less than three per cent of the light that hits them. I am looking

watch her sketch herself formidably on the horizon as they

up at my dad's shoulder, a silhouette of dark on black, and I couldn't say which was darker and if either was darker than tar. His shoulder is the Earth's shadow in my four-year-old-universe and the stars spray out from the hole that he cuts in the night sky.

Everyone must be as excited as I am; everyone must be looking into the eclipse of someone that they love. Everyone in this memory is four years old and is bursting with an anticipation that pushes us into one another. We are a whole town on a small hill in a black night in the southern hemisphere and we are deaf to what separates us from one another in this moment. The edges of each person's joy lays silently across the edges of another's, like the fringes of the picnic blankets or the dropped shoulders of the old hills. And even though we collect the lies of remembering from the air around us in the present in the retelling of how we all stood together on that hill, the sense that we lost ourselves to one another, for the millionth of a second that is one of those stars, is un-takeable by the losses of moving.

await the safe passage of snowmelt. For so many millions of

Memory folds into itself irreparably. It is the curve of the event coming back over onto itself like the smaller of the two waves sucked backwards under the white wash on the shore. A highly eccentric and elliptical orbit for a four-year-old. It is rocks forced together so tightly that they fold. They give in gently to the heat at the core of the lie. Their old spines become hinges from which their once broad shoulders planed out horizontally and they cave, finally lenient to the crushing pressure around them. They fold so as not to fault, so as not to crack or break in to the earthquakes that swallow cities full of churches and school children. The hills are benevolent to teach the memory the same. Trauma is the snapping of a straight line. *Memory is the chevron of the gullies out here*

years she has grown here, only now to be disemboweled in

where I grew up in the mining towns out west the houses are built almost overnight. Rows of tiny boxes, split in the middle, huddling in the shadows of the foothills where it rains for three hundred days of the year. The water fills the air but the drops are so small they can only be felt as dampness after the fact. You can't *feel* the getting wet. It soaks slowly into your skin before it registers as moisture. It is the feeling of the feeling of rain. Five eighths of each house is the living room. The kitchen and bathroom are left of centre. Two small bedrooms back to back at the far end. Half of the houses are duplex portables —like binary stars locked in a gravitational embrace— the rest free standing cottages. Dotted like stars, indistinguishable from one another when viewed from afar. At the beginning of a mining boom the families move in and paint the houses different colours. There are hanging plants and flowering shrubs, different shifting patterns on the curtains that move with the drafts that waft through the cheap fibro walls. But their crudely-mass-manufactured outsides are the least of what they have in common. These

their short lifetimes. — At first they came without machines,

houses know each other in a particular way; the private spaces that they protect are their common ground. As if by delineating *'inside'* they have become internally related. Their interiors know the softest pressing of children's feet early on Saturday mornings. They know the warm light of the late summer splitting through their dusty panes and fading their scuffed carpet. They glow together with the pale flicker of a hundred televisions. They creak with the same pitch of comfort. They shudder together as mud is kicked from boots on one of the two risers of their concrete steps. They sigh with resignation as they age through to the end of the mining boom.

And then damp begins to rise at the foot of some soon-to-be abandoned mountain. The houses know before everybody else that the tiny feet that tread their boards grow only to leave— boots laced with lead, pockets lined with silver. The making of a mining town is a living together through a breaking apart; the *dismantling of the mountains. A splitting into*

without noise, with only listening. At first they had come with

eyelets around my ankles, the river is bruising cold. My brother is wincing and giggling on the other side of my dad, pulling his legs in and out of the icy water like some long-legged lost tropical bird. He slips and yanks hard on my dad's right arm, and I am pulled upwards as Dad bends to keep my brother above the river's surface. He see-saws between us as we wade unsteadily over the emerald-stained rocks toward a small island that splits the river.

The island was made by diversion cutting.
In a summer one-hundred and fifty-six years ago, twenty-five miners were employed to cut a canal; twelve feet down and fifty feet across to run the river off its course. With every Spring snowmelt, the river bursts its banks and the floods have widened the cutting. The canal is now the main river course and the original river is the choked backwater we cross to reach the island. We fish in the deeper sink of the miners' cut. My dad carries frozen ham and mayonnaise sandwiches that by lunch time will be thawed but still cold. He carries lemon cordial and suncream, insect

wonder, perhaps even with awe. She could feel them run their

repellent and bacon rinds. Three fishing rods arc above us, stroking the weeping she-oaks like a single line of a light breeze.

Tannin stained water pulls across the tops of my feet with a kindness that seems inconsistent with millions of years of merciless slicing. The river runs forty-six kilometres through four-hundred-million-year-old siltstone and then out into the Southern Ocean at the dunes.

We sit on the bank of the small island and thread the bacon rind on the hooks as if we are sewing pleats. He jokes that we're feeding the fish instead of catching them. We bring up endless empty hooks and go home with leeches instead. He spends the long walk home threatening arcane burnings, saltings, chemicals, needles, sharp knives and tweezers. When we get there, he sits down on a plastic patio chair, under the backdoor light, next to a row of boots. It's cold and dark under the low tin roof and the slab is greening near the flyscreen door where the water pools in the worn concrete. He traps my arms by my sides with his knees and

thoughts softly across her bulk. They looked as if it were they

theatrically admires the huge, lecherous creatures that have inched up my jacket to the back of my neck. He conjures faceless parasites, already inches long and round with my blood. Razored rings of irremovable teeth embedded in my nape. He is talking loud and fast, umming and ahhing at the likelihood of my survival. I am wincing with the anticipation of a vampiric tearing. My breath is shallow, panic tears well in my eyes. I can't take it anymore. With all of my strength I wrench myself free of the grip of his bony knees. Ducking to avoid his furious hand, I bolt for the spongy lawn.

Out of arms reach, brave with distance, I turn to face him. He is wearing a broad mocking smile, chuckling to himself. A miniscule blood sucker, removed minutes before —gently and painlessly with a small confident twist, always in the right direction— squirms impotently between his fingers. I slump in to a fake sulk. My brother giggles and taunts me; two skinny little predators. Shame rises in my cheeks, *flushing hot like*

who had shaped her. She learned that they were taking her

her solid core, surrounded by the mantle, which scientists believe they will reach by 2020. They will drill beneath the deepest part of the ocean into the shallowest part of the Earth's crust. Four kilometres of water then six kilometres of sand and soil and worms and clay and fossils and ore. Then they'll hit the upper part of a molten river of stones that runs around the centre of the Earth. Inside of the planet is an extraterrestrial Nile, divided into two streams, two-thousand three hundred kilometres down and across. The mantle is made of liquid rock that is not lava. These rocks are not the rocks we know; these rocks are from the beginning of space. Deep underground, the swollen darkness pulses; and the rocks in the sky might be the same as those under my four-year-old feet. The alien river moats a solid iron ball.

When scientists and geologists reach her mantle, they will expose the old light that made the Earth. Each perforation will mark a reopening of ancient time. The past will be refracted into the future through the glassy gemstones from the

dimensions, sizing her up. She ignored them and continued

ancient river. Scientists will hold the rocks up to the sun and admire what they have discovered:

"These are the rocks of the universe, extra-terrestrials, billions of years old. The stuff of stars, comets, nebula!"

"These rocks are the history of the universe, more precious than rocks from the moon!"

"These rocks are the shrapnel of volcanic eruptions that we have piped from the widest river, through the shadows of the Moho, through the oceanic crust!"

"We have found aliens living deep below us. They swim the tides of the hottest river, boring its boiling shores!"

It will only take the rays from our own summer sun eight minutes and nineteen seconds to illuminate *what light has not touched*

to draw as she had for millennia. Laying down lines so fine

for billions of years the rain has made the river rush. The mouth of the tunnel is heaving with water as if it itself is drowning. The frothing white throws itself against the back of the tunnel's throat, the black hole in the stone gagging and choking. I can't hear my dad as he recounts the age of the stone cliffs that strike upwards on either side. The drizzle melts the edges of his raincoat into the scrub around him. He has promised an excursion that is worth the walk but my curiosity, piqued by his enthusiasm, is rapidly waning in the cold. We weave on and off the river's bank with the thinly cut track. Into the scrub: the sounds of sticks snapping, scraping bushes, muffled wind, my dad's stories. Out on the bank the tunnel howls of a winterlong death. It sings from the bottom of its belly, deep underground. Its misery comes up through my heels and into my shivering ribs. It washes around in my chest and then steams up into the grey sky. Sadness dissipates in sadness, and the sound of the tunnel and the lead-coloured clouds slide into one another and ooze above the tops of the gums.

as to remain imperceptible. They spent the hours that she let

Somewhere above the tunnel, off the river bank, slightly up the sloping mountain, he stops and swings left like a compass needle. He has found it. Down on one knee he rummages through his back pack for the torch. The now abandoned entrance to the mine is smaller than a normal door. He runs the torch beam around the adit. Some light reflects back off the shale but most is swallowed by the hole. The adit shrinks light into darkness. I imagine losing gravity inside: total blackness, no echo –and then I can't imagine any more. He stoops and steps fearlessly into the mountain's yawning mouth. His right foot disappears, his right leg, his right shoulder, then his hood. His outline is a more solid darkness than the darkness that is swallowing him whole.

"Come on, come in."

I wish I'd stayed at home.

"Come on. What are you doing?"

"I'm cold."

"Well hurry up then, it's warm and dry in here."

I shuffle towards the shadow curtain that hangs between me and my dad.

"C'mon, what are you waiting for?"

them have in those early years transcribing her in to text. They

The darkness settles on my skin as I wait for my eyes to adjust. Slowly the closest things come into focus, like a charcoal drawing, all fuzzy-edged proximity. As I wait for my eyes, I realise that he is right. It's warm in here. The wind has stopped. We have crawled under the Earth's skin. She is holding us softly against the weather. The further we go, rising slightly with the adit, the warmer and quieter it gets. My footsteps compete with my heartbeat in my ears. I think I can hear the mountain's in-breath that must last for a hundred years.

My dad stops. The torch swings ahead of him as if he were sweeping the ground with its beam. I can only see it when it comes out to his left, then it disappears again behind him. When eclipsing binary stars cross one another's paths, viewed from Earth, they look as if they are one star. When the smaller of two stars is closest to the Earth, there is a faint drop in luminosity. When the stars switch and cross again a burst of bright light is thrown into the darkness. Almost half of the stars in the night sky are binary stars.

wrote and wrote, but she could see nothing of her totality in

He takes a half step forward.
"Look."
I creep up behind him. He turns to make space for me to slide past him, he straightens and closes like a door behind me. He swings the torch across the abyss ahead of us. No one has been here for decades but the yellow paint on the cage lift door *looks as if it were*

their words. Their prose broke her into pieces. She sheltered

brand new. New things reach out honestly but they change what they touch. There is something quietly devastating in finding something new because, whatever it is that you have just found, it's no longer what it was before you found it. Newness is gone, when thingness is found. Newness belongs to the unspeakable that curves the smile lines out from the eyes before the reasons for laughter are registered. Scientists and geologists say that the rocks that turn the tide in the molten mantle underground are not like the rocks that we know from the Earth's crust. They say they will be new discoveries, but to get to the Earth's mantle, they must first pass through the *Mohorovičić discontinuity*, what they call the *Moho*. Scientists and geologists don't know what the Moho is. They only know it exists because anything that passes through it, changes. The Moho is not *something* in itself, it is only the *possibility for change*. It cannot be seen, or separated, or described, apart from the effects it has had on something else. The Moho makes *newness*. What will happen to the liquid rocks from the beginning of the universe when they are pulled

them and showed them the views from her peaks but they

through the Moho? Can the Moho turn quartz
into copper, *lead into*

couldn't write down the whole of her. Only fragments. She

silver spider veins pulse throughout the membranous sheath of rock that folds over the miner's heads. They tap the shining lines; galena laced with arsenic, antimony, and zinc, platelets of ore; agenite, chlorargyrite, and lead. They chip away at the streaks that run a thousand feet below the surface. Dust coats their knuckles, the insides of their cheeks, the cavities in the sponges of their lungs. Their alveoli shrink as the mine gets wider and deeper. They plunge downwards, they buckle, and then they are on their knees. With their picks raised over their heads and the ringing of their tools on the rocks, their shadows play shrieking birds with prehistoric talons that smash at the rivers of silver in the torch light.

In huge caverns closer to the surface, underground rock crushers smash the ore into smaller pieces. Rubik's Cubes of galena go to the surface in trucks via a spiral access tunnel. Above ground the rocks are crushed again. The finely ground ore dust is covered in water in Jameson flotation cells and the parts are separated from the whole. The lead, the silver, and the strange

existed for them only as the parts of her whole. — And so over

unwanted tailings spread out in the water. They add chemicals and then air— lead sulphide particles stick to the tiny bubbles and a thick poisonous froth forms on the surface of the flotation tank's cells. The froth is skimmed from the surface and dried, at this point it is seventy percent lead. Then they heat it and cool it. It gets colder in increments, at each stage something else is taken from its soupy form; some trace copper and eventually some silver. Hot and then cold, hot and then cold as if in a highly irregular elliptical orbit around the flame. This is how comets live and die; their sparkling tales are made of melting as they pass too close to the burning stars. The more beautiful the strike, the more damage is done.

Eventually the comet and the lead will be a small, pure, ingot; refined of imperfection and shared complexity. The silver is free of the lead, the lead is free of the galena, the galena is free of the dolomite, the dolomite is free of *the mountains that ring the small paddocks where*

the years, in the warmer months, they had begun to wear her

the cows refuse to look upwards. They're solemn playmates but maybe they're better than rocks. There isn't a whole lot for them to eat, the thick scrub devours the soggy grass in the small cleared paddocks faster than they can. The West Coast is no place for cows, they're too much above ground. Further north where the scrub is lighter and the mountains uncracked, the beef cattle thrive. Here, the small herd seems lost and thirsty; their leaky trough hasn't been filling.

We spent hours looking for the kink in the hose. Following the black snake pipe over and across the spongy short grass and through the patches of invading scrub. Into the scrub: the sounds of sticks snapping, scraping bushes, muffled wind. Stepping softly, pausing and listening for the tell-tale hiss of a leak. The cows stared morbidly at the empty trough.

By the time I'd found the perfect fold — a zigzag of pipe concertinaed up like a car jack —my fingers were stiff in the dusking cold. Dad yelled triumphantly that the water was coming

down. Their dismantling of her by their writing had made her

through. The cow's expressions didn't change, but he decided that they were happy. A decision in the place of an observation. He *decided* the gushing success that he saw reflected in those glassy bovine eyes. He decided not to notice that my brother and I were leaving. Water exploded like white sugar against the dark rust of the cattle trough, *it looked like the tail of*

more accessible and they forced her to accommodate them.

a comet takes years to return. There are comets whose orbits are thousands of years; some whose might be millions. Halley's comet is a short orbit comet. The single lifetime it cuts is only a single human life time. *And time passes and*

In the summer and the spring, and even deep into the autumn,

time cannot be looked at directly. Time is only visible through the effects it has on things. Time changes things from a hiding place somewhere near the core of the Earth. Edmund Halley never saw the return of the comet that he predicted; the cows that refused to look up into the night sky, saw its reflection in the water in their trough.

Or maybe it was the sky that held the reflection? Maybe the real event of the comet's passing took place in the cattle trough. Maybe we have the story backwards? Time grows on memory like the impenetrable West Coast scrub grows over everything. Soon you can't see the track or the short grass where the cows used to stand. Four pub mining towns have disappeared beneath that scrub. Maybe Halley's comet was as terrestrial as those cows and time has changed the story. Maybe that was the inversion that Bill Haley was singing about when he demanded that the rock orbit the clock?

Imagine Halley's comet as an event in a trough, projected by the camera obscura of the Earth's

until the winds make such a pace as to protect her, they came

atmosphere onto the blanket of the night sky. Imagine that its 80s streak across the southern hemisphere in autumn was only disappointing because of the shadow of the thirsty head of a Black Angus. Had that wet-eyed cow moved slightly to the left, the show would have been *exquisite*

incessantly to beat her. They cut her throat and broke her

corpses are pulled from the dam. The cows died one by one. They got old and then they got stuck in the mud. The last was found leaning sideways with her left eye out of the water. Her midnight coat still shining as he wrenched her, on a short length of chain by her head and her front leg, behind the old four-wheel-drive.

Clear of the water he bound her by her back legs and dragged her a kilometre up the hill. Her body, softened by the potholes in the paddock cuts a black shape, in the black night, on the black hill. And during the day the West Coast rain keeps her left eye wet and glassy despite his best efforts to close it.

Every time Halley's comet comes close to the sun, it breaks a little at its core. Some scientists think it might be moving further away from the Earth in its orbit. It will be a greater disappointment in 2061 than it was in 1986. The cows that refuse to look up won't be so impressed with the original arcuate of white water that flows into their trough. They won't flinch and their skulls

spine. Punctured repeatedly the thinnest veils of her, trying

will cast near solid shadows into the beam of
the inverted projection. We will learn from the
cows; no longer distracted by the sky, we will look
down. *We will look into the troughs*

to get inside. She learned that their small lives had made

in the Pacific Ocean in 1961 geologists started digging a hole— they would bring new things from the centre of the Earth to its surface! But the news of possible space travel, announced the same year, overshadowed their plans. Earthbound geologists stopped drilling and NASA spent the following decade bringing three-hundred and eighty-one kilograms of moon to the surface of the earth.

They have started the drilling again. This time in the Indian Ocean, in a place they call *Atlantis Bank*. They had planned (plans for the Earth?) that the Earth would submit to their announced displacement of 1,300 metres on the first expedition. But they made it less than halfway before the drill broke. Now the expedition's ship must go somewhere else to find something new.

The rocks that turn in the tide between the upper and lower parts of the molten mantle are not like the rocks that we know from volcanic eruptions or tectonic plate shifts. By the time the rocks from this unreachable asthenosphere reach us

them unusually quick and unnecessarily cruel. — They have

from the depths of the mines, they have cooled down and softened, changed their structure and lost their water. They have been changed by the Moho. But we know, that when they are deep underground they are something else entirely, something we have only seen in meteorites. Towards the centre of the Earth in the upper mantle, the temperature increases from nine-hundred degrees to four-thousand degrees Celsius. The rocks flow faster the closer they are to the core and the pressure increases. There are minerals under such crushing pressure, in such intense heat, that they are forced to live inside diamonds. Inside of these minerals, inside of these diamonds, are hydroxide ions. Something plain, inside something precious, inside of the mountain *that towers over*

pushed so deeply into her delicate layers now, that her wounds

the house is as low and as ugly as I remember it, inside-out like all of the others at the base of the mountain. Five-eighths living room, gutters painted a different colour to the houses on either side, the roof on the south side filmy with lime green slime. The backs of the curtains are squashed against the windows, constellations of black mildew spots on a white backing sky. The house seems a good place to store things and not much else. The back patio area hasn't changed and this is where he spends his days. It's cold and dark under the low tin roof and the slab is greening near the flyscreen door where the water pools in the worn concrete. The plastic table is wiped clean and there are floral cushions on the matching plastic chairs. Boots are lined up beside the door, the mat is straight and there is a string of festoon lights tacked carefully along the eave. The house, emptied of my brother's giggling, is just the back wall of the patio. Sitting at the table, there is a choice of two views. You can look out and under the roof line at the towering bulk of the mountain, or you can look directly into the beginning of the universe.

cannot close. They lay open to the sunshine for pressing and

They say that the beginning of the universe is still happening. That if we could look far enough into the event of the night, we would see the old light of its creation. This light has travelled billions of years into a future to appear as the faintest star in this present. If we could sit on the patio and wait long enough, we would see with our own eyes, the bang.

Here it is.

The Big Bang is thousands of rocks, meticulously selected for their colour, their shape, their history. All of them unearthed by him and set in two tonnes of concrete and a rusting iron frame on a patio out west. It is a map that can't be held for its weight. He has lifted every segment from the mines. He knows each of their names and every rock is a coordinate of a place that he's been. He sorts them. Jars and lunch boxes, ice cream containers full of sparkling stones. On shelves around the patio, lining the insides of small sheds, stacked across the sphagnum lawn; all of them handpicked and waiting to be set into a free

probing, for testing and tracking. Blue-green bruises pool in

standing universe. The map pinpoints his stories – he has a million – each is dewey-decimalled into the stone library of this wall.

He rolls the shining sapphires between forefinger and thumb, turns pieces of peacock-stained ore in his palm. The rocks catch the light differently depending on which way they face. He lifts a stone up to the afternoon sky, holds it above the mountain and tilts it back and forth. He closes one eye and squints into the rock as if it were a telescope. Then he turns his back on the sky and lowers the stone. He narrows both eyes now, straightens his arms and his neck, putting as much distance between his eyes and his fingertips as he can, then he hunches and bends his elbows, drawing the stone to the end of his nose. He's deciding which side to set permanently into the shadow of the concrete. He turns and bends and stretches, places the stone down and picks up another. He turns and bends and stretches, mechanically waltzing into the sunset. The light from the west comes steeply in under the tin roof and falls across The Big Bang. The rocks flash

last year's lacerations as she tries, for their miniscule decades,

in the burning orange, disappearing one by one, receding into the black concrete in the continual rain. The water fills the air but the drops are so small they can only be felt as dampness after the fact. You can't feel the getting wet. It soaks slowly into your skin before it registers as moisture. It is the feeling of the feeling of rain and it makes his moustache look as if it is made of silver.

He started building the universe twenty-one years ago. The following year, in 1996, NASA opened the Hubble Telescope's wide eye on an empty patch of sky. Hubble stared at the black space for ten days. Scientists held their breath. Slowly, galaxies started appearing in the pictures. A few spots of white light, and then blue and then gold, and then swirls and disks. Whole other worlds in a hole in the sky. The light from the galaxies in the photograph was thirteen billion years old. It's a picture of the universe at five hundred million years. Thirteen billion, five hundred million, twenty-one years, ten days. Some people say that the telescope's photograph is still the most significant image ever made.

to heal what they inflict in weeks. They continue to survey for

To write a cosmology you have to understand presence and absence, but more completely, the presence of absence. How did he know what Hubble would see? How does somebody learn the plans for the primordial event? From what sleepless night of what day of what week do the small blurry beginnings of that map creep into the light? I imagine the labyrinthine hollow of his oesophagus running into the burial chambers of his bellies where invention pours. His feet make almost no sound when he treads. I clumsily trudge behind, the ground squelches rudely.

From a cracked ice-cream container that is half full of rust coloured water, he gives me a piece of copper, and a piece of galena. I turn them in my palms and see that both have grown over bones of quartz. One is warm and golden and the other is heavy. Memory as shining silver, as heavy as lead. I'll only stay a few days, tomorrow we will visit the museum. As we walk away from the patio, *the Big Bang recedes*

delicacy, what they record as weakness. They have made her

the universe has expanded in the hundreds of thousands of kilometres and the hundreds of thousands of hours that I have put *between us on*

fragile through prolonged exposure. They smash mercilessly

the map is a 3-d model of the West Coast. Unfamiliar-familiar the way mountainscapes always are. The hills of my four-year-old-memory are dragged forward and thrown up underneath the hollowed insides of the plastic peaks. My memory and the modelled present are sitting like ill-fitting moulds dropped atop one another. The truth is, it's been a while. The truth is an awkward stack with a precarious slant as the soft, worn hills of the past dislocate and roll down underneath the razoring of the local present.

It's mid-week. The museum is glazed over in a kind of sleep-stasis-hibernation. Probably just until the weekend. Dust presides more convincingly than the staff do over the mineral collection and the gift shop's Chinese-import trinkets; the two are almost indistinguishable. The staff watch as if they are blind —using more finely attuned senses to feel the feeling of our trespass. We cautiously explore the jewelled remnants of the mountain, the dynamite, the picks and the mattocks, the taxidermied wildlife,

into the countless faults that give her form. She has been being

the 3-dimensional scale map of the region. He reaches out to touch the plastic crests of the hills. He polishes the mountain range with his fingers. Soon, the absent staff will see his traces in the dust.

In the corner of the next room, opposite some of those open-ended coastline sketches by early Dutch or Portuguese explorers, is a towering clear cylinder. It's new to the collection; I've never seen it before. It's two and a half meters tall, maybe more, with the circumference of a large hula-hoop. It has a beautifully crafted dark timber stand and a long mechanical arm that holds what looks like a roller-blind down one side. There is something quietly devastating in finding something new because, whatever it is that you have just found, it's no longer what it was before you found it.

A laminated A4 label has been roped around the machine's barrelling chest. The label reads:

dismantled now for as long as she has been named in writing.

CARBON ARC BLUE-PRINT MACHINE

This old machine was purchased by Mr.R.Sticht for the Mount Lyell Mining and Railway Company in 1922. Any drawing on transparent paper could be copied as a blue-print. It was in continuous use until 1966. The tracing paper was placed against the glass cylinder. sensitized [sic] paper was placed over the tracing and the canvas blind was then pulled round to keep both papers in close contact.

The arc light was then switched on and allowed to travel slowly down the center of the cylinder, the speed being adjusted to suit the density of the transparent tracing.

If the tracing was thin and clear the speed was fairly fast; if the tracing was thick and/or opaque then the speed of descent needed to be slow.

The degradation of her failing slopes is exponential to her

After the exposure the sensitized paper was removed and washed in a water bath and then dried. The final print had a blue background and the original black lines on the tracing appeared as white lines on the copy. The machine is still in good working order.

PRESENTED BY THE MOUNT LYELL MINING and RAILWAY CO. LTD.

The carbon arc machine is for making copies — blueprints, *It's a curved light box, a life-sized pinhole camera,*

textual existence for them. She knows, that as they write into

a telescope! The Hubble telescope was seven years late into outer space and for the first three years of its orbit all of its photographs were blurry. The telescope should have been in the sky in 1983 but we were both on Earth when Halley's Comet passed. Once in orbit, NASA sent astronauts to visit the shining silver cylinder; they adjusted its mirrors and re-tuned the *fine guidance system* on board.

The last time somebody checked on Hubble was in 2011, there is no further human contact planned. Hubble, replaced by a telescope that sees in infrared, will be left alone to swallow the waves of the light that are still visible to the human eye. For now, the machine is still in good working order, but the fine guidance system is slowly deteriorating in the radiation in the Earth's outer atmosphere. Soon Hubble will lose its way, absentmindedly wandering off course; its blue-prints will be forgotten. Hubble is not what it used be.

her bowels, they will be taken from her. Carted out and burned

Tomorrow I'll help him fix the gate. I'll only stay a few days.

The Hubble telescope is an obsolete tunnel still filled with the light that it has shared; it discovered the acceleration of the expansion of the universe, and when the scientists at NASA pointed the Hubble telescope at a black hole in the sky — into emptiness— they found that the emptiness in space *was filled with*

into steel and silver. They bore into her with technologies

light spills up and over the horizon, the shed is huge and cold early in the morning. The deep steel and plywood shelves on the left side stack all the way to the roof like scaffolding. On the adjacent wall is the sliding door and an alcove where all the tools are kept. An obligatory over laden peg board. Hundreds of primary coloured implements flat against the shed wall and roughly traced around with permanent marker. There are doubles of almost everything and so few are missing that their absence seems exaggerated in the midst of so much presence. Like a chalk line on a busy city footpath. A suicide, or a hit and run, traced as the massive presence of absence. Two Phillips-head screwdrivers, two rock hammers, two chisels, two masks, two torches. The peg board is a mythical tool ark. All of the singles who missed the boat, drown with the vices in a sea of left-hand gloves and safety goggles on the work bench below.

On the right-hand wall are the welding tanks, the cutters, the hoses, and the forklift. Directly opposite the door is the sink, the dirty mirror,

made indecently powerful by the elemental strength stolen

and a one litre pump action bottle of sunscreen. The farm gate that used to keep the small herd of black cows off the road, is lying, mangled, in the middle of the concrete floor.

I open the shed's huge roller door too fast and it slips out of the rail guides. It hits a steel bollard on the outside and the shock of it rattles through the entire shed. The horrible sound is nothing compared to the white light of the sun that hits me square in the brain. Tears well in the corners of my eyes. I stumble backwards into the shed shadow to recover from the temporary blindness. I think I see the penumbra of my dad rolling his eyes, shaking his head, half-smiling through a blur of tears. He is arranging the solar powered welding masks in the solid block of light that now stretches diagonally across the concrete floor.

The welding masks are my favourite things in the shed. You see everything as it is, framed through the shadowy rectangular window, but then as soon as there is a bright light the mask throws you into a magical darkness. You can look into

from deep within her. They repurpose her for her own ruin. —

lightning, a solar eclipse —you can open the shed door to the full sun— without going blind. It is a liquid crystal display, like in a digital clock, that powers the auto-darkening filter lens. They steal the sun's energy to create their impossible shadow vision —as they're charging my dad is arranging the two pieces of steel fencing that we are going to weld together. He attaches the ground clamp, loads one of the electrodes into the grip and throws a pair of leather gloves at me. The electrode sticks look like sparklers. Helmets adjusted, over-sized gloves on, standing steady. He taps the stick on the steel plate. The spark sends me hurtling into momentary darkness and I can only imagine that I've seen it. The masks work at the speed of light and now I can see the arc of electricity between the stick and the steel fence. They are turning to liquid and bubbling. My dad is an alchemist delivering a mask-muffled warning about the heat conductivity of steel. He stops, blackness then shadowy reality and a new spot weld. He points to the following five joins to be made and hands me the clamp with a fresh electrode stick. I tap the stick to the steel...

They do not know that as they spoil her, they begin to change

nothing. Again... nothing. I smash the stick hard to the steel, a flash, blackness, and then a perfect arc of fire between two pieces of dark grey. I am four and we are watching the curve of the comet in the sky that I didn't see. My dad is dancing behind me yelling;

"No not like that!"
"It's a very slight back and forth!"
"Too fast!"
"Too long!"
"You'll melt it right through it!"

I ignore him like I would if I were on a soccer field, a basketball court. He is cheering from the darkness of his personal universe. I am in my own, making liquids of solids, in a sparkling arcuate of power. I finish, release the spent inch of remaining stick on to the concrete and pull my mask off. He hinges his up, as if to indicate that we're not finished and goes to grab one of the rock hammers from the Ark. He hammers my five neat joins. Softly at first, then harder, he almost wills them to spring apart. They don't.

themselves. They don't know because they die individually but

He removes his helmet.
"Not bad for a first timer." His brow furrows.
"You've a steadier hand than me."

My puffy pride dissipates; this is the third time he has taught me to weld. He doesn't remember. My hand is steadier than his, I don't struggle under the weight of the steel fence. My heart is breaking as I watch the care that my dad is taking. His hands ache, his back is sore, his eyes are... not what they used to be. We turn away from each other silently resolving never to talk about it.

Mostly, the universe envelopes us. It is impossible to feel separate from it, its darkness and its stars are under my shoes, under the concrete; against my face in the welding mask; in my head as the most exciting memories, the strangest discoveries, the impossible reality of being part of the biggest thing that has ever happened — so big, it's still happening! If I could write anything, I would write a cosmology! But when my dad is not invincible, space-time seems stupid and childish. Space is something between us and time

they change as a group. The deeper they penetrate her folded

is something surrounding us, rushing past, that I somehow missed, like Halley's comet —a cut-out of my dad instead of six seconds of an eighty-six-year orbit. Inside of Hubble's photograph; inside the black space of sky, is another small black space. The whole known universe is made of holes. To see into that space, further from the future backwards, Hubble will need to see in infrared. Will need finer insides. Much smaller pieces of conductive silver, more heavily refined lead, *more powerfully arced and precisely poured*

recesses the more their cruelty turns inwards. They cannot tear

time grows as the universe. Not in a neat line, or in a long silver chain; time grows like an oil spill. Time grows extensively. Time decorates the future with the shimmer of potential and the past with the sparkling of memory. Then it binds the two together with a thick, suffocating coating of present.

An author wrote that we live waiting to die. That we can see our own end, always in our periphery. Elvis sings about a flaming star that sits over his shoulder. He can't look around; he has to ride forwards because as soon as he catches sight of the star that is following him, he will know that he is going to die. Elvis knows that his death is inevitable, but he can't predict when and where it will take place. He spends his life riding forwards *never lookin' around* and trying to keep death in the future, even though he knows that, eventually, a flaming star will make his potential future death a past fact. Elvis tries to stay in the time before... *his time has come.*

into her interior without shifting their own. Whilst they are blind

Astronomers and geologists know that even though everything in the universe is its own thing, it is only its own thing because it has a place in the universe. Everything is separable, so that we can hold it, talk about it, remember it, but nothing is actually separate. Even things lost in the vastness of space are still part of space. Like the way that halves can only be halves because they refer to a whole, another part of them that we can't see but that they depend on to be what they are. Everything is like half of the universe. Elvis is half, the flaming star is half, the river, the mine, my dad.

Elvis' death is always present in his present in the potential for its occurrence; this potential is made possible by everything that already exists. Past Elvis make present Elvis fearful of what could befall future Elvis. Elvis watches his life thin and spread across the horizon in front of him.

Elvis had already been dead nine years when Halley's comet cut the sky. The flaming star was

in darkness, she lies in the pitch black of memory. As they drill

too late; Elvis was already dead the night that we stood —the whole small town on a small hill deaf to what separated us from one another— the edges of each person's joy laying silently across the edges of another's.

He spent his whole life not looking, only to miss it like Edmund Halley, who never saw the return of the comet that he predicted. Elvis riding forwards, Halley looking to the past for the future, my dad eclipsing the comet that he has brought me to see. These are the things that fill a cosmology. Things that take up space and then take more when they're gone. Time grows in all directions to ensure that there is space enough for all these things in memory and that nobody is lost forever *in the dark*

and pick at her for generations they interiorize their destruction.

in the deepening hole half of the shovel disappears. Its sharp end seems to just wash into the empty-dark around it, the shovel is the darkness, the darkness is the shovel. The shovel becomes the hole that divides it in half.

Is the hole made of the thin veneer of soil that is closest to its edge? This is the thing that delineates it as a hole… Is it the whole Earth that has been dug into, that acts as the full thing, around its emptiness? Is it only the space between the walls of soil? Could it then be any space? The whole of space *a hole*

She can see the whole of which they are only parts and she

inside the mantle are countless diamond galaxies that hold a mineral called *ringwoodite.* Ringwoodite has a specific molecular structure that allows it to carry hydroxide ions. Hydroxide ions are water that is not liquid, nor ice, nor steam. It is water missing a proton; water differently charged. Ringwoodite is carried by the currents in the Earth's mantle toward its burning core. Under pressure, it changes into silicate perovskite— single crystals of perovskite covered in silicate *melt. Melting* in the mantle is a mineral's way of getting rid of water. The melt flows back toward the crust to be taken up again by minerals that are still cool enough to hold water. In the transition zone between the upper and lower mantle, scientists believe that there is a stable reservoir of water that would more than triple the volume of the Earth's oceans.

Geologists used seismic waves to find the invisible water. *Seismometers* to feel the feeling of water moving underground, drops so small that you can't feel the getting wet. *It soaks slowly into your skin before it registers as*

can see that their murderous greed is weakening them. They

moisture is slowly soaking into his lungs. Inside of him the wind has stopped. I have crawled under the Earth's skin. Together, my dad and the mountain are holding me softly against the weather. I am dragged up underneath the topology of their forms and trapped in their chest cavity.

Moving involuntarily with the mantle currents around his solid core. Deeper, I boil, contract, compress, crush, contain—not steam, not liquid, not ice—water differently charged, trapped inside of him, inside of her. As I rise to his surface, closer to the Earth around him, I melt and water pours out everywhere. If he lies down liquids collect in his chest. *Pulmonary Edema*: excess water from the blood starts to seep through the walls of the alveoli. The tiny sacs that make the sponges of the lungs are inundated and they fill with water instead of air. If he lies down, he will drown. This is an engineering problem. Miners *who work above adit are not supposed to drown,*

desire so much of what they take from her that they cannot

nobody should be lost forever in the dark

help desiring to be taken. Unknowingly each wishes for his

of the Carbon Arc Blue-Print Machine, a map-sized sheet of paper, and then an opaque blind is rolled around you. You stand in the dark cylinder with your own heartbeat in your ears. The old arc light blinks on... cover your eyes! The lightning flash hits your humming brain. The light starts to sink towards you; an illuminated cage lowered down into the shaft of the glass barrel. You move to one side; a slow Copernican revolution begins. The light beats against your face and your shadow is cut into the copy. You are the black silhouette of my dad's shoulder against the blacker sky as he points in the direction of expectation. You eclipse the blue-print the way he eclipses thirteen billion years of light. The white lines that you have stolen from the light sensitive paper are etched on to the inside of your skeleton. For ten days you stand in this (w)hole universe whilst a reverse MRI is carved into your bones.

This is how he designed *The Big Bang.* In an illuminated cage, a yellow cage that nobody has seen for years, falling down inside the cylinder of a mineshaft. This must be where he saw the

death and the deaths of all the others. And they are dying at a

map for the creation of the universe. He saw the impossibility of the entirety of the patterning of space backlit by darkness. The plans are finely cut into his bones; every rib, a carbon arc. He remade –from these internal blue-prints– the explosions and collisions that for millions of years have stolen the rocks from the sky in the drawing of the Earth.

Taking the rocks from deep underground, he rebuilt space to the specifications that are etched onto the insides of his body. You can see the Big Bang under the low roof of the patio, way out west. If you can wait long enough, you can sit there, in billion-year-old light, and you can watch it — the bang.

pace that only she can see from the crest of her stone summit.

If I could write anything, it would be a cosmology. I would write an account of the scale of space-time, growing in extensity, with infinite possibility for newness. I would attempt to account for the largest things in the furthest reaches of the universe, as well as the things that are infinitely smaller than is even imaginable. A cosmology is a map, a model, an account and a forecast. A *cosmology is a*

Where once they had measured her, she now measures them.

hole.

I am digging a hole. I had thought that the hole would be around a metre deep but already, at thirty centimetres, the ground is harder than I'd planned. I had planned (plans for the Earth?) that the Earth would submit to this unannounced displacement. I pull the shovel backwards in preparation for another downwards drive. My elbows fold as the handle rises. I clench my jaw, my knuckles, and my wrists as I shove downwards. I get a good few inches into the dirt.

The tapered end of the blunt shovel has sliced cleanly through the translucent-pink body of an earthworm. If an earthworm is cut below the clitellum, it can sometimes regenerate its tail to become a half-new worm. The shovel seems to have landed in the middle of this one. Dead centre. It's impossible to tell the head from the tail; twin worms writhe on either side of the tilted arc of shovel, their inhuman little bodies spasm into life-rings and s-bends as one of them becomes a half-new worm. The old shovel —the

She is an orogenic metronome to the tune of their thanatosis;

rusted material between these fresh articulating forms— is lifted. Half a worm stretches toward a possible future and half a worm curls over onto the heels of the past. Doubled over, they are dying in the present. The trauma of a severance from origin and end loops lifewards and deathwards and in the next pitch of dirt *I bury two worms alive.*

counting down the inevitable ends to their golden means. She

counts them like sheep and slips in and out of sleep, *waiting*.

COLOPHON

Silver/Lead is one of forty mineral recompositions
commissioned by A Published Event for *Lost Rocks* (2017–21).

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This is how comets live and die; their sparkling tales are made of melting as they pass too close to the burning stars. The more beautiful the strike, the more damage is done.

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