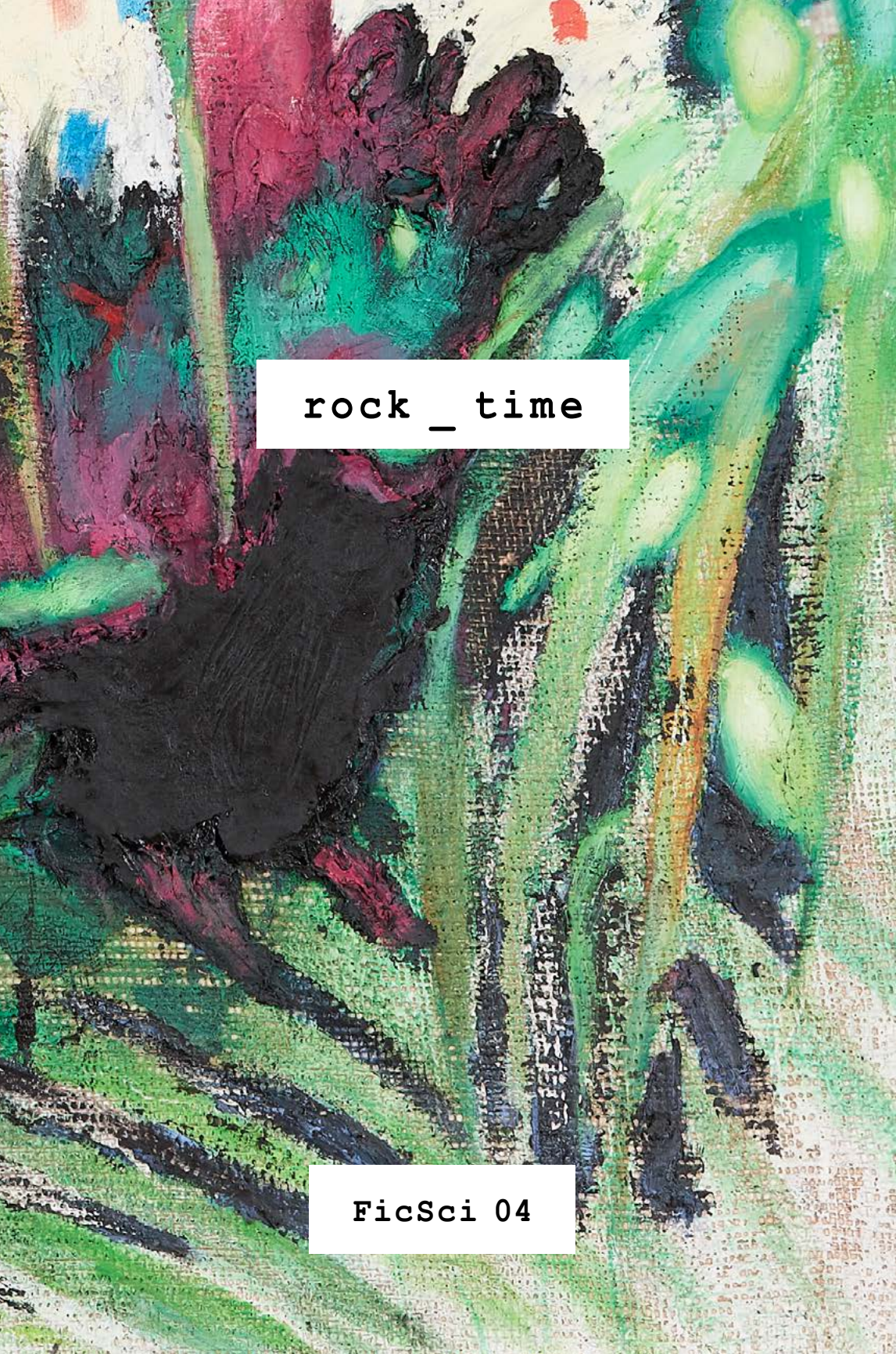

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FicSci 04

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FicSci 04

Edited by
Mehita Iqani and Wamuwi Mbao

AFRICAN
MINDS

Published in 2026 by African Minds
4 Eccleston Place, Somerset West, 7130, Cape Town, South Africa
info@africanminds.org.za | www.africanminds.org.za

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ISBN (paper): 978-0-6398914-2-2
eBook edition: 978-0-6398914-3-9
ePub edition: 978-0-6398914-4-6

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Acknowledgements

FicSci is a not-for-profit academic research project that aims to produce and support experimental interdisciplinary encounters between science and creative writing. It is organised by the South African Research Chair in Science Communication and funded under the auspices of the National Research Foundation of South Africa.

FicSci is convened by Professor Mehita Iqani and Dr Wamuwi Mbao. For each workshop we invite a scientist specialist to share their research. We are grateful to Dr Tebogo Makhubela for sharing his knowledge and time for FicSci 04.

Each workshop also invites select writers chosen through a competitive application process.

We thank all the writers who accepted our invitation and shared three days of their lives with us to participate in this bold experiment. We are grateful to all the writers for engaging with the post workshop process and for polishing their pieces based on our feedback.

We thank Fumani Jwara, Noxolo Mbazini and Elizabeth Newman for invaluable communications and logistical support on the project.

FicSci 04 was hosted at the Mont Fleur conference centre in the Blaauwklippen Valley.

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Listening to the rocks: Caves, chronologies and environments associated with human evolution in the Cradle of Humankind

Tebogo Makhubela

Provocation 1: Caves and hominid fossil-bearing deposits of the Cradle of Humankind

The Cradle of Humankind (Cradle) UNESCO World Heritage Site in South Africa is among the world's richest landscapes for understanding early human ancestry and the geological worlds that early humans once inhabited. The fossil sites in the Cradle are hosted within the Malmani Subgroup of the Transvaal Supergroup, a carbonate platform sequence formed more than 2,500 million years ago. These dolomitic formations, subdivided into the Monte Christo, Lyttelton, Eccles, Frisco, and Oaktree formations, have experienced several episodes of erosion and tectonism which gave birth to the cave systems. Later, the caves opened to the surface and accepted sediments and fossils, leading to the preservation of bones that represent several species of humans and animals that lived in the past 4 million years. The discovery of fossils in the caves is linked

to the late-nineteenth-century gold rush in Johannesburg, when the demand for lime needed for gold processing and cement production led to quarrying of the dolomites. Searching for lime deposits, miners and geologists uncovered the fossil bones by accident.

Among the 16 hominin-bearing fossil localities of the Cradle, some of the notable sites are Sterkfontein, Swartkrans, Malapa, Drimolen, Kromdraai, and Rising Star. Sterkfontein has yielded many *Australopithecus africanus* fossils, amongst which are the famous individuals dubbed "Mrs Ples" and "Little Foot". Swartkrans is well-known for *Paranthropus robustus* and evidence of the earliest controlled use of fire. Malapa is the home of *Australopithecus sediba*, which bridges ape-like and human-like traits. The focus of the first talk was the Rising Star Cave, a cave system extending more than four kilometres and descending over 30 metres beneath the surface. Within its Dinaledi and Lesedi chambers, over 2,500 fossil elements belonging exclusively to *Homo naledi* were discovered (Dirks et al., 2015, 2017). These remains lie more than 120 metres from the cave entrance, sealed within fine muddy sediments devoid of other large fauna and coarse sediments (Berger et al., 2025). Their isolation and context present a profound enigma: how did the bodies arrive there, and what story does the geology tell about their final resting place?

Sedimentological analysis revealed that the Dinaledi Subsystem was filled by low-energy muddy deposits rather than catastrophic flood or debris flows. Unlike sites such as Sterkfontein and Drimolen, there is no evidence of coarse sediments consistent with high-energy transport capable of moving articulated skeletons (Berger et al., 2025). This lack suggests deliberate placement or natural entrapment under extremely calm conditions. Geological studies for testing the burial hypothesis utilized stratigraphic disturbance and geochemical analyses of sediments. Trace-element analyses revealed distinctive patterns in calcium, zinc, and other metals that differentiate bone diagenesis from host-sediment chemistry (Berger et al., 2025). These micro-signatures helped reconstruct post-mortem processes, clarifying that the fossils were chemically isolated over time.

Provocation 2: Geochronology of complex stratigraphy in the Cradle of Humankind

The second talk focused on determining the radiometric dates of cave deposits for indirect dating of the fossils they contain. Two methods commonly used in the Cradle were discussed. These are cosmogenic nuclide burial dating of quartz in the sediments and uranium-decay chain dating of speleothems. Speleothems are rocks formed inside a cave by precipitation from water dripping and flowing over walls and floors of the cave. In the Cradle they commonly have a calcium carbonate composition dominantly represented by the mineral calcite. Stalagmites, stalactites and flowstones are the most common forms of speleothems, and in the caves flowstones have become the favourite form to use for determining the ages of fossil-bearing rocks. That is because flowstones can underlie and overlie the rocks that contain fossils and thus can provide bracketing dates for the deposits.

Cosmogenic nuclide burial dating is based on a paradox: it measures what happens when rocks are no longer exposed to the sky. At Earth's surface, high-energy cosmic rays strike mineral lattices, producing rare isotopes at known rates. When the rock becomes buried, that cosmic bombardment ceases, and the isotopes decay at predictable speeds. Measuring the remaining ratio between beryllium-10 (^{10}Be) and aluminium-26 (^{26}Al) tells us how long the rock has been shielded from the surface, that is, how long it has been part of the deposits underground.

However, the story is not so straightforward in a cave. Muons are subatomic particles that can penetrate deep underground and produce cosmogenic isotopes, continuing to create nuclides even after burial. Understanding their contribution requires detailed modelling of depth, density, and geometry.

Uranium-based dating is conducted primarily through two radiometric methods, uranium-thorium (U-Th) and uranium-lead (U-Pb) dating, both of which rely on the natural radioactive decay of uranium isotopes but differ in their applicable materials, time ranges, and precision. In the (U-Th) method, the age of a sample

is determined by measuring the ratio between the parent isotope (^{238}U) and its intermediate daughter isotope (^{230}Th). Because uranium is soluble in water while thorium is not, freshly precipitated speleothems initially contain uranium but virtually no thorium. Over time, ^{230}Th accumulates through radioactive decay, allowing the time since mineral formation to be calculated. This technique is particularly effective for dating speleothems ranging from a few thousand years to about half-a-million years old.

The U-Pb method, in contrast, tracks the complete decay chain from ^{238}U to stable ^{206}Pb. Thus, the U-Pb system extends the datable range from hundreds of thousands to billions of years.

The (U-Th) dating technique was used to determine the ages of speleothems associated with the *Homo naledi*-bearing sediments, and yielded formation ages ranging between approximately 350,000 and 240,000 years ago, constraining the period during which the *Homo naledi* fossils were deposited in the Dinaledi Chamber (Robbins et al., 2021; Makhubela and Kramers, 2022). These results imply that *Homo naledi* persisted much later than previously thought, surviving into the Middle Pleistocene, a time when early *Homo sapiens* and other advanced hominins were already evolving elsewhere.

In a new cave called UW105, located within the Rising Star property, the combination of cosmogenic nuclide burial dating and U-Pb results points to a complex, multi-phase history of sediment infilling, collapse, and calcite sealing. This cave, though extensively damaged by lime mining activities, preserves a remarkable assemblage of fossils, including hominin remains, within the remnants of its breccia deposits. Despite the severe loss of stratigraphic context caused by mining activity, the site retains significant scientific potential.

Through the combined application of cosmogenic nuclide burial dating and U-Pb dating, the depositional history, geological context, and chronological framework are being reconstructed.

Provocation 3: Past landscape, environment, and climate reconstruction of the Cradle of Humankind

The third talk focused on reconstructing the past landscapes, environments, and climates of the Cradle to contextualize the fossil record and the evolution of the caves discussed in the previous talks. This work integrates (U-Th) dating, cosmogenic nuclide analyses, and stable isotope geochemistry to establish a detailed environmental framework for understanding how climate and surface processes influenced cave formation, fossil preservation, and hominin occupation. The talk highlighted the Lefika la Noka (LLN) tufa site (Onyeogu et al., 2025), a carbonate deposit formed by precipitation of calcium carbonate from spring and stream waters at the surface. Tufa deposits, unlike the speleothems that form inside caves, accumulate in open-air environments and record changes in hydrology, vegetation, and climate over time. The LLN tufas provide an invaluable surface analogue to the underground records of the Cradle, preserving evidence of freshwater flow, vegetation dynamics, and sedimentation that shaped the landscape above the fossil-bearing caves.

(U-Th) dating of the LLN tufas established the timing of carbonate precipitation episodes, providing chronological anchors for interpreting the environmental record. The (U-Th) ages, combined with microstratigraphic and geochemical observations, reveal alternating phases of tufa formation and erosion, which correspond to shifts between wetter and drier climatic periods in the Cradle during the late Quaternary.

To refine the paleoenvironmental reconstruction, stable carbon isotope ($\delta^{13}C$) analyses of the tufa were used to infer vegetation cover and atmospheric carbon dynamics. Carbon isotopes discriminate between plants that use different photosynthetic pathways: C_3 plants typical of trees and shrubs, and C_4 plants typical of tropical grasses. The isotopic results from LLN show oscillations between

C_3- and C_4-dominated vegetation, indicating alternations between wetter, wooded environments and more arid, grassy conditions. These vegetation shifts correspond closely with regional climatic fluctuations and demonstrate the responsiveness of the Cradle's landscape to changing moisture regimes.

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1

The Gateway to Forever

Terry-Ann Adams

The queue at the Preservation Affairs office seemed to stretch on for kilometres. Its inhabitants all lined up, files in hand, some rehearsing out loud, some staring into space. The entrance to the office is crowded and tight. Those near that section of the queue prepare themselves mentally to smell and taste the sweat of their fellow sisters. Nala had heard all kinds of horror stories about the queues at Preservation Affairs, but, ever the optimist, she chose to "meet the experience with an open mind". Now confronted with reality, she wishes she had been better prepared. In front of her, two hominids down, is the familiar smell of fruit, lemons? No sweet, sweet juicy oranges. Nala watches the owner slurp and chew, admonishing her stomach, bidding it to refrain from grumbling.

The coughs and throat scratches saturate the air with impatience and a hint of desperation. Feet shift loose soil to and fro, creating imprints screaming, "My legs are about to give in". Backs hunch and then rise, only to give in and hunch again. No one complains; this is Preservation Affairs, and they see you when they see you. Grumbling only makes the wait feel longer. Nala watches as a woman zips past, back hunched, with a serious look on her face. She braces herself for the inevitable. There is always that one hominid who tries it.

"I am just coming to ask something quickly, I won't be long."

“Everyone in this queue is here to ask something, ma’am. Please return to the back of the line.”

Another one bites the dust. This is the third queue dodger to try this trick. No one gets past the guard with the big head. Nala tries to stretch, but one of her pioneering hands lands on the face of the hominid behind her.

“Sorry, sorry, I didn’t mean to,” she cowers, willing her body to shrink into itself.

The glare of her victim pierces right through her, burning a hole in her already empty insides. She looks away, trying not to appear wounded. A scratch on one of the walls catches her eye as she shuffles forward. A huge monitor with rotating announcements stands out in the otherwise analogue room. A series of faces on the screen asks her to rate her experience of the service at Preservation Affairs when she steps out. Nala wonders if that will be this century. The image disappears, making way for an advert.

> *Welcome to Rising Star Estates, where your memory lives on long after you are gone. Rising Star Estates is more than just a burial plot; it is a gateway to forever. We use the latest in radiometric dating systems to ensure that your resting place is as old as time itself, because tomorrow isn’t promised, but forever can be.*

Nala stares at the screen with renewed hope. This was a sign. The ad came on just as she was about to give up. She’s back, headstrong and focused once more. She knows why she’s here. Rising Star Estates is the goal. That’s what brought her to this god-forsaken office and queue with its sweaty inhabitants in the first place. She goes over the documents in her larger-than-normal backpack. The plan is simple; all she has to do is convince the officials that her body is worth preserving. Only hominids with future fossil status are buried at Rising Star Estates. Everyone else just gets thrown anywhere and everywhere.

“I don’t know why you care about what happens to your body after you die, Nala.”

Nala didn't have the words to explain to her mother that becoming a fossil was about more than just what happened to your body after you died. It was about living forever. See, her mother wouldn't understand that these things had been foretold. How would she even explain that one day the hominids would rise again, not as flesh but as fossils, and *she*—Nala—had to become a fossil buried in the Rising Star so that she could be the first to rise. Nala didn't just want to die and be dead forever; that was the fate of those with no purpose, not her.

The collection of feet in the queue inches forward ever so slightly. Chests meld into backs, jolting heads out of their daydreaming. To the passersby, they appear to have all merged into one giant body—separated only at the feet, like a centipede. They are one consciousness with a thousand toes, moving forward one painstakingly slow shuffle at a time. Nala opens her pack one more time to go over her papers, shifting her body weight from one leg to the other. She tries to ignore the cramp blossoming in the back of her calf. "A forever home in the Rising Star Estates," she repeats; both manna and mantra. To reach Rising Star, Nala needed fossil status. Yet her hunger rears its head once again as the "Next" call moves the queue forward. Nala straggles along with the rest of the centipede. Now is not the time to let self-doubt creep in; it's time to silence her stomach and remember that she is called for this.

Nala looks around at all the hominids in the queue to distract herself. She never felt like she belonged in her community. Optimism is a rare in these parts, yet she always had enough to build a mine dump. When others frowned, Nala smiled. When others conformed, Nala rebelled. She questioned teachers, refused to stand still or do as she was told. She hated the mundane, the everyday, the repetitive. Her mother dismissed her, her sisters called her distracted, and no matter how hard she tried to stay focused and blend in, she couldn't help but stand out. Nala always felt that her life was bigger than her; her bones, bigger than her. She knew that thoughts of being a fossil were above her station. Only those with exceptional skill (or vast resources) could become a fossil. Being all over the place and full of

unbridled energy wasn't considered a special skill, and her family's resources were anything but vast.

To distract herself from her discomfort and anxiety, Nala thinks about the events that led up to her being in this queue.

It happened on that fateful night. She bolted after dinner, after yet another explosive confrontation with her mother.

"You have no direction, Nala. How will you find your place in this world?"

"I don't want to find my place in *this* world! I want to be remembered."

"We are not here to be remembered. We are here to survive!"

Nala stormed out of the house, breathing thunder and lightning with every exaggerated step. Her mother's words echoed and followed her. She tried to outrun her mundane existence. Every day was the same, the same lessons about how to spot a predator or what to do in case of a landslide. The same chores foraging in the same forests. The same faces of the same old hominids at the market or at the town square. She found an opening in the ground. The softness of the sediment surprised her. She had been in a cave before, but this felt different. The smell of the cave made its way into every part of her being. Mud, dry mud that somehow smelled like it had just been rained on. Both musty and fresh at the same time, she was intrigued. She touched the walls, stumbling, tripping, eyes adjusting to the dark. Eyes acquainted with the dark. Eyes at home in the dark.

The cave welcomed her, walls as old and young as Earth breathed in and out. Lines giving away their age, their story. Nala turned her head when she heard voices. Chants filled the air as a line of matriarchs spread their bodies all around the chamber.

"Come in, Nala, come and see."

Nala abandoned all survival instincts and followed the voices. She was drawn to the peaks and valleys they promised. A faint glow surrounded the oldest. She, their leader, sat in the centre of the cave. She beckoned, saying nothing while the others called out to Nala.

Nala felt her legs move without provocation. Suddenly weightless, she floated towards the matriarch's light.

"Come and see"

This was Rising Star. She didn't know then that this cave would be turned into a luxury burial estate by the council, the landlords and the Preservation Office. It was still a cave, unnamed and undisturbed. The head matriarch pointed to a bowl of water. Hands pushed down the back of her head, bringing her face to face with the universe reflected in the liquid. That's when she saw it. Creatures walking upright, new, foreign creatures. They crawled in the cave, shifting, poking and prodding at the sediment. She followed them, trying to see what they saw, hear what they heard.

"We found something."

Nala followed the scratching and digging. The creatures moved with precision; their delicate hands had a grace to them that enchanted her. She had never seen anything like this; their curiosity intrigued hers. These creatures wanted to know more. They weren't made to live in the caves, but here they were, rebelling against survival instincts. They wanted to know more than they wanted to live. Nala took it all in. The one in charge swept away the mud and showed the others the bones. She didn't know how but she knew those were her bones. Nala felt chills with each stroke. This was her. They had found her—

The matriarchs pulled her out of the water. Their leader motioned for Nala to sit.

"My child, what did you see?"

Nala hesitated. What if she sounded crazy? The matriarchs softened their faces, lowered their chants to whispers that put Nala at ease. She told them about the creatures in the cave, with their smooth faces and tiny hands. She told them about the burial site and the bones. She told them what Rising Star would become and who would lie there.

"You are chosen," the matriarchs sang in unison. Nala looked confused.

"The creatures will come to this cave many, many years from now. You saw that. Our kind will be long gone—and forgotten. The

Almighty Mother has shown you this in the water. This cave is the Rising Star, the place that holds our stories. You know that. When they sweep away the mud, our people will be reborn. The Almighty Mother has chosen you to be the first to be uncovered. Your bones will be the first to see the light."

"But how? I don't have preservation status. I am no one. They will never bury me here."

"It has to be you. It will be you. It is you. The Almighty Mother will show you the way. Your bones will rise again."

A loud sneeze brings her back to the present, back in the queue, the end nearly in sight. Nala breathes a sigh of relief. Someone shares their nuts, another shares their fruit. The sight of the meeter-greeter inspires ubuntu amongst the members of the queue. Only one head stands between her and the surly face and beady eyes. This is it. Fear threatens to creep in, but Nala shakes it off. She looks at the pack one more time. "The Almighty Mother will show me the way, right?" Nala exhales loudly.

"Next!"

It is time.

2

The Rock Eater

Emma Paulet

Behold my favourite hiking spot. Fort Klapperkop, or just Klapperkop, is a relatively small nature reserve that somehow contains an entire mountain. It's home to a surprising number of non-predatory mammals, like zebras, various antelope and small mammals, and birds that I would personally describe as predatory (I am of course referring to ostriches). They all live in relative harmony and things are looking up now that their grazing has grown back somewhat, and they don't have to worry about humans too much because they hardly touch the place.

To be honest, it's not my absolute favourite hiking spot, but I no longer have the luxury of reaching my actual favourite hiking spot and living to tell the tale. To be fair, I haven't tried, and this is rather a theory based on things being as they are, which is shot to hell—almost literally. No one knows for sure what happened. Or, if they do, they haven't figured out how to tell me personally. It's probably for the best. So, I speculate (and I quite enjoy speculating). Judging by the weirdly persistent daylight and how my skin singes when I exit the sanctuary of shade, I would say the sun has something to do with it. It happened quickly, and then slowly. I know that doesn't make sense. Put it this way: the sun had a brief bout of explosive diarrhoea, totally fucking up anything electronic—grids, satellites, you name it—and a lot else besides, and then it got insomnia.

We'll call it 'The Solar Event'. But let me be clear: the event is still unfolding; we're just adapting. It's more like The Solar Reality.

So, anyway, Klapperkop it is. The highest point available to the public—back when mere boomed-off areas and social mores prevented us from going wherever the fuck we wanted—is heralded by an old bicycle, eroded by time but painted white by god-knows-who. It's been a while and it's still there. If breezes were stronger, it would probably have crumbled into tiny particles of rust and blown away. I thought about using it for transport purposes in the early aftermath of the sun shitting all over us, but it's so far beyond repair and being saddled that it's more of a vaguely hazardous fossil than a cute vintage ride. And so, I walk everywhere, which takes longer but also means I'm rarely a target for robbery (bikes are a desirable commodity now).

There's an urban legend about the bike's origin I heard many years before the sun took ill. The legend goes that a man, for the bicycle is said to be built for one (I actually know very little about bicycles and even less about men), rode it to the top of Klapperkop one day, then went for a walk (probably needed a piss: let's be honest) and never returned, lost forever to the landscape. There were searches, but his body was never recovered. Fun little mystery, right? It gets better! Klapperkop became known among geologists for a strange phenomenon. Erosion is commonplace, but Klapperkop's seemed to happen at an exponential rate. In fact, some once argued that there wasn't breakdown happening so much as rocks just disappearing. And this is where the urban legend comes in. Our missing man was certainly a cyclist, according to the type of bike he rode; he wasn't simply getting from A to B—he was the competitive type. The type despised by motorists and pedestrians alike. He was likely very fit, wore tight shorts and occasionally used hand signals, but it seems his internal compass was a bit useless (remember, the Klapperkop Nature Reserve is fairly small) and quite possibly he didn't know an awful lot about surviving in the wild. And so, mystery junkies will tell you, while our missing man was alive, he was living off the land in a rather peculiar way—by eating rocks.

How did I find myself at Klapperkop when humans had become

too scared to go outside? Well, I'd always been industrious and a firm believer in making my own opportunities. I invented a pretty niche form of tourism—kind of the opposite of dark tourism. In my version, we would watch the rich in their houses. See, Klapperkop Nature Reserve borders a formerly well-to-do gated community comprising a veritable hodge-podge of mansions: some are objectively pleasant to look at, but many are not, adhering to the faux Tuscan look that swept through real estate developments in the early 2000s. And what exactly makes these estates real in a society that's hurtled towards the brink of free-for-all since the sun vomited over everything? The people in them, of course!

In reflective hazmat suits that I'd taken several months to construct out of foraged fabric and foil, I organised a small group to essentially go on a short hike that would take us along the perimeter of the gated community. Hiking wasn't illegal, and neither was much else actually, but not many people were up for it in our new Solar Reality. I'd been a regular before the sun entered its fugue state. Without the internet, getting people to join basically involved writing a chain letter that I hoped would boost participation—because they'd have to pay me for my trouble as their tour guide. It was a kind of pyramid scheme—the hook being that you'd pay less if you got more people to join.

The payment system had become interesting; people paid in kind, but the payment was never money, because that had become completely meaningless. Often, and in my case as an entrepreneur, you might indicate the sort of material goods you'd be willing to accept as payment. For a long time, I was very into jewellery because it could be easily traded, but I also became fascinated by particularly interesting rocks and fossils. These didn't have much trade value, unless you were trading with someone in the geological sciences. They were still around, but they'd gone back to more primitive means of excavating and analysing, when they dared go outside.

Getting around was hard without GPS, so I targeted people who were familiar with the area. People who had maybe hiked there or cycled there once upon a time and kind of missed it. People who

could also never live in a big mansion unless they had the resources to build by hand because of the times (in other words, if you weren't already living in a big house, you probably weren't going to anytime soon, or ever). Basically, the people in the area I was targeting were theoretically unopposed to eating the rich. Of course, the plan wasn't to *actually* eat them. Society hadn't yet reached that point, as far as I knew. We would consume the rich in *other* ways—through observing them in their natural habitat, and maybe commenting loudly on their clothing or activity choices, as viewed through their massive windows.

My stint as a tour guide was annoyingly short-lived. Everyone had arrived more or less on time, not that anyone was really keeping track, and we'd all donned our hazmat suits and taken the windy path down the mountain towards the start of the perimeter. Gazing at the mountaintop from way below, you'd notice a deep fissure, formed over millennia and indicative of a cavern, continuing to take shape in its own time. Some days it almost looked like the mountain was vaping. I'd taken videos of it, back when such whimsies were possible and I could share them on my silly little social media accounts with dumb captions and too many hashtags, and I remember thinking that the cloud didn't look like it was 'passing', it looked like it was 'emerging'. But no one on the tour was particularly interested in exploring the possibility. They were just there to eat the rich, so to speak.

That day I learned that community policing was pretty much an epidemic, but very covert because no one wanted to leave the house. Also, it was hardly communal and more a case of every-person-for-themselves. Turned out a lot of rich people moonlighted as hunters in the recent past and were adept at pointing their rifles through slightly ajar windows while shouting loudly at anyone trying anything. And although we were trying only to watch them (and hurl the occasional insult), it was enough for one of them—and that's all it took—to open fire nearby and send my modest group of paying clients scattering.

Ahead of all of us were the ones who were used to running, like the joggers and a former Springbok. He wasn't alone in being

formerly employed; a pretty big chunk of us—whether formally or informally—had become a former something. Anyway, I think the tall jogger was called Mike and I'm pretty sure one of them had been a radio DJ (I didn't recognise his face, but I felt an incredible sense of déjà vu upon hearing his voice when he shrieked). The former day-hikers comprised a gaggle of giggly girls who'd personalised their hazmat suits with tulle and sparkly stickers and who screamed loudest of all when the shots were fired. If things had been very, very different, I'm one hundred per cent certain they would've been taking selfies. And finally, off fucked the two timid teenagers I'd coaxed out of hiding with my chain letter; I'd found out that they'd effectively been abandoned by their parents who were visiting the Cape when 'it' happened. They ran hand in hand.

I never saw any of them again.

As everyone sprinted away, the mountaintop beckoned me. Half running, half crawling, weighed down by my bartered jewellery, I made it to the top of the mountain and wondered what the hell to do next. Walking always helped me think, and so I kept walking. My compulsion to shout "Hellooo!" down holes—any holes—found me Makatso. That day, I tossed down a piece of jewellery with every hello, as a sort of offering to the possibilities beneath the surface. I suspected that the smaller holes were spider holes or snake holes, while the larger ones were porcupine or dassie holes. Whoever was down there, they were getting some jewellery; it could've been a ring, a bracelet, a necklace—really, whatever came to hand, down a hole it went. One time, it was a Makatso hole or, more accurately, Makatso's hole—though of course it had been there, more or less the same size and shape, for literally millions of years. It wasn't dug into the soil, it was a hole in bedrock—a fracture like a chimney the size of Makatso. Some experts in the field would have labelled it a deathtrap—but one lost cyclist's deathtrap is another lost cyclist's grand entrance. And Makatso was very much alive, or so I initially thought. Down went a pearl necklace.

When I heard "Hellooo!" come back to me through the chute, I thought it was an echo, and being delighted by small things, I shouted "Hellooo!" again and got the same response. And then,

because I'm an idiot, I yelled "Fuuuuuuck!", and the echo paused. I plunged into the earth, not stopping to consider how I'd get back out again, or if the voice inside might in fact have belonged to a serial killer. Slipping down the chute felt a little like re-entering the womb, or how I imagine it would; it was slippery, tight, and if the plates of my skull hadn't fused a few decades ago as expected, it probably would have been a bit easier to navigate. In spite of myself, I made it down.

The cave reeked of dassie and bat shit. Not the worst smell in the world, when you got used to it, as I had by my fourth or fifth visit. The dassies and bats were Makatso's friends, neighbours, and occasionally his meals. Makatso was not a serial killer. He was too weak for that and very much in his own world, although he seemed to experience moments of lucidity. He was skin and bone and spoke with the voice of a man who hadn't spoken in a very long time, but I soon learned that that was just his voice. He actually spoke to a lot of things—animals, insects, reptiles, rocks, and spirits. And also himself. After our initial hellooos through the chute, the first thing Makatso said to me when I uncrumpled myself from the foetal position I'd landed in was, "Jesuuuuuu!". I quickly corrected him, but told him I could see why he might've thought me the second coming.

Makatso had fire, the old-fashioned way. He'd been using the twigs that blew in through the various chutes and crevices, the roots of trees entwined in the rocks, and the remains of small creatures. I suspect he'd also used his clothes, as he wasn't wearing any. In fact, the only thing he had on was my pearl necklace offering. I gave him my hoodie when I met him and he put it on. Although it was oversized, it didn't quite cover his willie, which was mildly distressing to me as I'd managed to avoid willies all my life. Spending most days with Makatso, I soon acclimatised. It also helped that I would bring him more clothes for his body and kindling for his fire, in addition to any extra food I could scavenge. He kept his fire burning in one of the smaller caverns of the cave system that was his world. Although the circumference of the cavern was small, it seemed to stretch up to forever, and right at

the top, not quite in the centre, was a pinprick of light that let the smoke through.

Not having very much going on in my own life as a surface-dweller, I visited Makatso most days. He didn't seem to mind. Over a period of weeks or months (neither of us was counting), Makatso showed me around the cave system that had become his home. He didn't make use of all the caverns, but each one that he did use had a specific purpose. He slept in or near his fire cavern, and further away was his cavern for ablutions, containing a puddle. Further still was another cavern that he babbled about at length, but never let me enter. He pointed to the carvings on the wall leading into it, and I understood that it was sacred to him, and that it had been sacred before him. He introduced me to bats and dassies and other drawings that he'd carved into the cave wall beside drawings that had been there a lot longer. The most unusual of his images depicted a being holding a rock, and then raising it to its mouth and seeming to swallow it. The rock became part of the figure, and the figure seemed to dance.

I'll never forget the first time I watched Makatso consume a rock. It seemed so natural and surreal at the same time. I imagine he must've eaten his first rock out of desperation or psychosis (or both), but now he appeared selective. A sort of sommelier, he sniffed and tasted rocks before making a seemingly informed decision to ingest one. And when he did, there was a chance that nothing would happen except for some marginal weight gain and digestive discomfort. But sometimes, it would result in strange wonders. The rocks spoke through him and lived with him—*in* him. Just as his drawings depicted a being dancing after swallowing a rock, Makatso would become animated by what I supposed was a sort of residue in the rock.

One small rock very obviously coated in bat shit led him to flap his arms and make high-pitched shrieks that echoed against the walls of the cave and sent all the other bats flying. The more fossilised-looking rocks were hard to watch him devour; I wanted them for myself. When he swallowed them, he would reanimate those fossils through his body, becoming creatures I'd read about but never seen

before. And some of them were people—or nearly people. They communicated in ways I couldn't understand. Through Makatso, they would all take me by the hand to the edge of that sacred cavern. They would all stop me from entering. When Makatso had exhausted the ghosts of aeons past from his system, he would curl up by the fire.

I would leave him as the sun attempted to set. It became a ritual. I walked the long tunnel to the cave mouth. There was a rope leading the way, evidence of adventures from another era. It wouldn't hold a person's weight if they slipped, but it would guide them to the exit like a long tactile arrow. I held it very loosely, and I stepped very carefully. I always glanced back as the rope ended and I set foot outside the cave, hoping to see Makatso treading quietly behind me. I never saw him once I'd reached that point. He refused to follow me out and screamed the one time I tried to drag him towards the light.

One day, Makatso showed me a cave drawing I hadn't noticed before. It might have been new. In it was a figure with hair like mine leaving the cave and locating a rock, which it brought to the being waiting inside the cave, who swallowed it. I took this as a directive and ventured outside the cave earlier than usual. I picked up the first loose rock I came across and brought it back to Makatso, happy to have accomplished the task he set me. He shook his head. He led me to the cave drawing again, and I noticed a second line of 'instructions' that I'd initially missed, so eager was I to be useful. These instructions were under the image depicting the figure with my hair leaving the cave. They depicted the figure—me—holding the rock to their face but not ingesting it. I thought I understood. As I turned to leave the cave again, Makatso gestured that I should go far in my search for a rock. I got the feeling that he required a rock that didn't come from the nature reserve—a rock not of this particular land.

I made a pilgrimage back to where I'd spent too many years taking myself too seriously. I'd gone all this way figuring that geologists love to collect rocks, and maybe I'd locate a collection with rocks from somewhere else. Once open to the public, and then very much closed off, I was happy to see that anyone could enter the

university's gates now, although I doubted there was any education happening. The campus resembled a ghost town. Muscle memory took me to the part of campus that housed the Geology building. Unsurprisingly, the lecturers' offices had been looted. For a moment I scolded myself for not having thought of it first—the specimens I could've collected!—but then bent my head to the task at hand: investigating the backs of cupboards and drawers for any samples and specimens my looting forebears might have missed.

Fortunately for me, tmany rock specimens are a bit boring to look at. These were ignored by the first looters, which meant more variety for me. Some of them looked like rocks I'd find in the nature reserve, others looked vastly different. I found a small field guide on rocks and minerals in southern Africa and compared each find to the pictures inside. I took my time—reading, blowing away dust, turning over each rock, trying to *feel* something. Makatso's carved instructions had indicated that the rock had to mean something to me, and so I was trying to find a point of connection. This was especially difficult as I am not a sentimental person. In the process of finding this special rock, I had to *learn* how to be sentimental. About a rock. Sedimental? Eventually, I noticed that one of the smaller rocks, although bite-sized, vaguely resembled Makatso's cave system. It seemed to have an entrance, and then a network of caverns and the tiniest pinprick of a hole at the top. Recalling Makatso's carved figure holding the rock to its face, I brought the rock to mine. I closed my eyes and focused on what I was feeling. What I felt was recognition and familiarity. I hoped this would be enough. It wasn't.

When Makatso returned the rock to me, I took it as failure. Shocking all parties present, I started crying. In my defence, they were tears of exhaustion. The search had taken longer than I'd hoped, and overall it had been a punishing trip on foot with little sustenance, and I hadn't slept much lately. Makatso smiled when he saw my tears, he grabbed me by the hand holding the rock and held it to my leaking left eye. I understood then that this was the last requirement: I had to connect to the rock by imbuing it with my essence, so to speak. This could've been disgusting, depending

on my approach, but Makatso had shown me what was required and I was glad to oblige and ensured my tears didn't go to waste. Into the tiny caverns of my rock I wept. When I was done it looked like a waterhole for ants. Being salty, and being almost eternally warm and sunny since—you know—the tears quickly evaporated and their precipitation formed something akin to flowstone on the surface of my tiny rock. I presented my offering to Makatso. He smiled again and uttered the most comprehensive string of words I'd ever heard him say.

"I can die now."

When Makatso ate my rock, he began by licking it. I imagined it tasted salty first, with granular notes of dolomite and a hint of rust. He held it in his mouth and sucked on it like the hardest lozenge in the world. I imagined his tongue probing the tiny cave, almost in the centre, the way it probably probed all the wounds in his gums. I was glad he didn't try to chew it with the small rotting mounds he had left for teeth. Then he swallowed.

Nothing happened for the longest time, and Makatso and I just stared at each other. Then Makatso took himself to his fire cavern. He removed every item of clothing I'd given him, as well as the pearl necklace, tossing them into the burning pit one by one. The flames sputtered and danced, fuelled by the PolyCotton blend. He curled up next to the fire and started shivering. I was about to offer him my hoodie, as I had when we'd first met, when he started shaking violently and something told me that this must be the end—or close enough.

Makatso understood that I'd located him, that I could return to the surface and back. Did he think it was a superpower? I couldn't convince him that *he* wasn't lost—that he wasn't physically stuck in his cave system. The half-life of his belief was without end, and the only way out was through death. Either that or he felt a massive sense of responsibility for the cave system. Maybe he wasn't afraid of the world outside, it just wasn't important to him. He'd been in there a long time, though, and I wondered how he would have made sense of a world that had evolved so much and then almost come to a complete standstill since his initial misadventure.

When Makatso finally expired, I dragged his body to the entrance of the sacred sub-cave he had shown me before. I'd never been inside until that moment, and even then, I was really only on a ledge, heaving his heavy mass over the edge. To be clear: Makatso was rake thin, but he definitely had not passed all the rocks he ate in his lifetime, and so this contributed to his heft as a corpse. My night vision had been improved by the time I'd spent with Makatso, but I was not above a makeshift torch of flaming twigs. I held the flame over the precipice of this cave-within-a-cave and it illuminated a pile of bodies in various stages of decomposition. It was cool down there, and the walls had the cinnamon-scarlet tinge of mercury sulphide, which I'd learnt about in my search for the special rock. I imagine it took years for the bodies to do whatever it is they do when they stop being alive. I saw more willies, but I no longer cared. I saw faces that looked like ours, and faces that were no longer faces.

Objectively, it was a horrifying sight, resembling the piles of death camp corpses in our high school history books. But after meeting and spending time with Makatso, I was seldom surprised by anything. It all felt inevitable. Maybe there had always been rock eaters, and in facilitating Makatso's likely overdue death, I'd just witnessed the end of the line. I wasn't sure how to feel about that, and so I didn't. I started making my way to the cave's entrance, loosely gripping the guiding rope.

Exiting the cave, I glanced down for what I thought was the last time and spotted a quartz. I wiggled it free from the earth and briefly considered its dusty exterior before I spat on it and wiped it against my jeans, revealing an almost pure whiteness. I popped it into my mouth where I held it for a while, tasting nothing and possibility. Then I swallowed.

3

In Barzagh

Gaireyah Fredericks

Hie innie Malmeniê, annekantie Dolomite Avenue, speel Geoff, of soes amal hom innie lane roep, "Klyn voetjies", soccer samie laaities innie pad. Hy is rats en briek amal se enkels. Dai mien manet hy laat hulle wêk vi dai ball. Maa ja, hy's fokkin brilliant oppie veld. Sy pa is nou sieke netta jaa al dood en sy ma wêk allien vi hom. 'n Baie proud vrou en vra nie 'n liepeltjie suiker offe stukkie brood vi geniemant innie laan nie. Som dink sy gie vi haa yt. Hou haa wat sy nie issie, maa ek wiet wie sy is. Ek ken hulle familie al since voo dai laaitie se birth. It mienie as djy vi jouself is, djy's sturwie nie. Sy't baie op haa bôd. Dai's hoeko ek agree et om narie klong te kyk—of kaind offe oeg oo hom te hou deerie dag, tewyl sy wêk. Hy's mos al van yt sy kimbies onne my hand.

Ek kry soe lag as ek hom vra hoekom noem amal hom dan Klyn voetjies, dag is vannie magic footwork oppie veld, dan sak hy heel ernstag af: "Nee, Mrs Ples, issie dai nie. Ek is mos mettie voete ees gebore." Die laaitie praat van goed asof hy vannit kennis dra, nonetheless, hy voel baie proud van sy bynaam en ek moet getuig, it pas hom.

"Het djy dai bietjie skorregoed van va'oggen gewas Geoff?" sê sy ma tewyl sy somewhat op clear op pad kitchen toe om supper te begin.

"It was te min skorregoed, mamz. Daise waste van wate en dishwashing liquid. Ek't gemien ek doenit soema vanaand samie

supper bôtjies," respond Geoff metta tone in sy voice asof hy iets achieve et.

"En dai maak vi jou sense?"

"Is logic, mamzie. Perfect sense."

"En wat as daa iets gebeerit met my byrie wêk en hulle moes my hystoe bring? En hie kommie paramedics met my ennie plek lyk soese orkaanit getreffit? Of iets loep skief en God forbid, die brandwee moet kom? Moet hulle nou sien hoe ôs soes varke liewe? Mossage varke!"

"First of all, mamz, as mens siek wôd ennie ambulance ko haal jou byrie wêk, vat hulle jou na ongevalle en assie brandwee moet kom, dink mamzie rerag hulle gan vi hulle ytsit met skorregoed! En drie bôre maakie 'n mens …"

Hy wil nog klaa tuu praat toe hoo hulle 'n klop annie dee. Hulle ken dai famous klop.

"Gan maakie dee oep haa vi Mrs Ples. En eksie klaa met jou nie boet," respond Geoff se ma soes sy u-turn vannie kitchen en gan sit oppie couch.

It was Mrs Ples. Sy ko loe soe every now and again in byrie familie net om te kyk of hulle oraait is. Oek issie council-hys miere din, soe sy kan actually oekie effe-argument volg. Assit potential wys om te explode, pop sy ma in ommat sy wiet as mens eesie sloes van seer inne bekgeveg oepen, val haa soms unplanned pyn yt en dan moet djy mee vegifnis innie ent vra vi als wat djy kwyt geraakit as wat djyrie issue at hand aangespriekit et. Mrs Ples issie van dié kalieber mense hie nie. Sy's antient. As ek ancient sê, mien ek sy operate nog mettie devine intervention van ancestors en gloe nog an bygeloefies. Sy's van dai mense wat omme hoek kan sien en innie wind die next dag se stront wat oppad is, kan ryk. Sy's klein gebou. Nog hups vi haa age met skoues wat vorentoe hang. Ampe assoffitie hare issie. It lat haa arms lange vookom as sy stap en often kry mens ie idea sy't 'n prehistoric krul in haa. Nei serious! Sy hou nie haa massive hanne se duime as sy loep pointed yt soes homosapiensie. Haa duime point altyd in. Sy'te vookop soe groot djy kanne projector daa op shine en haa eyebrows isse verêrage afdakkie vi haa oë. Even haa jaws protrude mette oplettende overbite. Nie die mooiste blom innie tyn

nie, maa sy't gentle oë. Naby mekaa. Hulle kyk dee jou tot binnin jou siel.

"Naandsê familie. So, môre need ek help metta kas ommit te skyf, Fran. Sallie klong kan ookom asseblief?" sê Mrs Ples en head straight virrie couch en sit oppie punt op aandag.

Geoff vedwyn soese spelt innie hoep sy ma anwoot in sy favour voo hy self moet decline.

"Well, hy doenie djys ienage iets significant hie nie. Hy might as well of use somewhere else wies. No problem. Skrie manet as hy moet ookom."

En voo Mrs Ples nog kon respond skrie Geoff se ma af innie gang en order hom na Mrs Ples se hys virrie skyf vannie kas ie next dag.

"Settled dan," sê Geoff se ma while sy haa anne skoen af van haa hak pop en haa sloffies wat vannie vorage aand nog altyd half onnerie koffietafel lê, gryp en anslof.

"Dis lovely. Ek's soe dankbaar julle is hie vi my. Ek issie mee vedag se kindtie, vestaan? En moenie worry oo môre se broodtjie vi ou seena nie. Ek sal dai soema oek ytsort. Issie minste wat ek kan doen, rerag." Beer Mrs Ples altwie haa hanne in haa overall pocket in haa skoot.

"Hai Mrs Ples. Os wadeer jou net soe baie." Sit Geoff se ma haa hand op Mrs Ples se knie.

Die twie staan op en move narie dee waarie geselsie continue.

"Djy wiet my meisie, en ek mienie prai nie, maa boys need die outdoors. Ek vestaan djy need hom oek om jou plekkie daarem 'n bit aandag oek te gie, maa op sy ouredom is daa baie lessons vi hom nog daa byte oek om te lee. Vestaan djy wat ek mien? Met sy pa se hiengan en soe an. Maybe moet djy miskien try en praat oo sy pa met hom. Vi hom laat wiet djy's oek in pyn. Die was jou loss oek. Hy need om jou loss te sien, you know. Djy's stêk en God knows mens moet virrie kinnes stêk wies. No need to tell me about that, ma it is al 'n jaa ne? Lang tyd ommie orie dood te pratie."

"Mrs Ples, ek wiet djy mien goed en djy is baie daanag vi ôs—en ôs naturally vi jou, ma ôs is okei. Net sies ôs is. Hy'se teenager. Ek en hy sal wore het every now and again, soe maa ienage ieman annes, maa it mienie ôs is broken nie."

“Okei kindtjie, as djy soe sê. Djys mossie ma. Djy sal van bietere wiet, reg?”

“Dai issie idea ja, Mrs Ples.”

“Nou ja, laat ek maa wals Fran, voo ek my welcome overstay. Good night.”

“Night, Mrs Ples.”

Mrs Ples loepie paaitjie narie hek en in by haa hekkie na haa voodee. Geoff appear innie dee agter sy ma en saam sien hulle Mrs Ples af tot sy haa dee toemaak.

“Soe ek moete kas more ga skyf? Joh mamzie, en mamz dinkie ees om my te vra of ekkit wil doen en of daa even iets is wat ek vi môre beplanittie. Soema net soe raak ek ’n moving furniture guy.”

“Well, djy konnie manage ommie skorregoed guy te wiesie, soe nou moet djy maa moonlight as iets annes.”

“Nagaanie, mamz!”

* * *

“Mrs Ples! Die ding is swaa! Ôs need nog manne! Ek kan gou vi Tandtjies en Kniekop gan roep. Serious, ek wiet waa hulle ythang.”

“Daa sal niks Tandtjies en Kniekoppe hie in my sanctuary hulle voete sittie. Die’s jóú djop! Nou stoot!”

Geoff issie ’n bad laaitie nie, maa hy mis baie dinge wat hy imagine hy en sy pa sou by die tyd al saam gedoenit. Hy konnie wag omme opgeskote laaitie te raak wat nou oud genoeg is om saamie pa pa-goed kan doen nie. Hy’t oekie a bad relationship met sy ma nie, maa somehow na sy pa se dood het hulle net weg van mekaa begin drift. Skielik hettie taal wat sy hom op grootgemaakit nie mee begin sense maakie. Geoff het alles asse straf offe attack begin interpret.

“Die anniversary van jou pa is annie opkom soon né klongens?” sê Mrs Ples saggies, asof sy Geoff ees bietjie ytsas om te kyk hoe vê sy die convo kan vat.

Geoff anwood haa reluctantly en is asof hy die krag ommie kas te move instantly kry en slieppit dattie trekgelyde oppie vloer dit impossible maak om die convo te continue. Vi altwie van hulle.

“Net tot daa! Dankie,” skrie Mrs Ples en kom op haa voete starag yt haa stoel.

“Kom, nou gat os brekfis.”

Geoff hettie kas sieke drie of vier meter gestoot. Ennit issie ees oppe plek wat sense maakie. Hy kyk die biesaghyd ’n kot wyle en decide dis oumens crazy. No need to ponder about simple goed wat net man kopseer gan gie en follow Mrs Ples narie kombys.

“Sit daa,” point Mrs Ples en begin kassies ennie fridge oepmaak terwyl sy ingredients oppie counter pak.

Mrs Ples se kitchen is soes ’n museum. Old relix orals scattered ge-orientate enne musty ryk wat annie miere klou, maakie saak wat djy in dai kitchen cook’ie, it ryk dieselle daana. Daa isse dee wat so every now en again oepmaak, marie venste het haa ooleë man nog met koeranpapie toegeplak en as djyrie datum vannie geel gestainde niespapie lies, realise djy is nineteen voetjek s’n. Sy oë was mossie lekka nie en dais hoe hyrie lig ytie kitchen gehourit, want hy’t daa gesit most of the time. Die ‘wireless’ gelyste soes hyrit genoemit. Al hulle stories—even in modern times latere voo sy dood het hy vekies om op dai stoel regop te sit en sy stories orie wireless te lyste. Mrs Ples verduidelik altyd is ommat hyrie warmte vannie kolestove enjoy et. Hy’t altyd vannie koue innie lounge complain. Nie te min, is asof mens back in time getravelet. Is soese time capsule.

“Ek het vi ôs wôs ytgehaal. Wôs en y’es. Djy need ’n spoil na al dai wêk, right?” knip sy vi Geoff oegie asof daa anne mense saam hulle oek innie kombys is.

Geoff knik terug, terwyl hy links en regs scan. Net in case Mrs Ples se ancesters vi haa ko kuierit. Soms deerie miere kan mens haa hoo gesels. Asof sy ’n report aanvra vannie anne side. Sy praat asof daa ieman by haa sit, you know. Met pauses vi responses en dan respond sy. Is creepy nogal at times. Sometimes issit lang geselsies. Soms kot en kragtag—to the point.

Geoff het eendag mette glas tienie mier gesit en virre while afgelyste. Dai dag wassit nogal ’n eerie experience. Hy kon sweer sy’t sy pa se naam genoem. Maa toerit latere afgeskryf an sy vebeelding.

Die kosryke beginnie kombys vul ennit ruk Geoff na sy sinne.

“Lekka-lekka, Mrs Ples. Dai ryk mos marshallaah,” sê Geoff soes hy sy hanne tien mekaa vryf van enjoyment.

Mrs Ples lag, maarit klink mee asse kuggie asse lag.

“Djyrit mos vedien, klongens.”

Geoff respond na Mrs Ples se signal narie kietel en hy volgie instruction. Dis sy eeste kee in haa hys na ’n lang absence. Hy ’t annedag hie op-en-af ie gange warm gehaloep. Sy’t practically vi hom sien groot wôd. Van babysitter, na nasôg na ytkyk-antie nou.

“Drink Mrs Ples nog syke?”

“Watse vraag is dit, kint! Lyk ek vi jou of ekkie liewe sier ankyk? Maakit soet. Vie syke.”

“Joh! Maa is dai nie ongesont vi Mrs Ples se ouredommie? Ek mien, is mos …”

“Mos net niksie. Hooriesa, wil djy nog hier iet?”

“Ja, Mrs Ples. Ek mien manet,” sak Geoff sy kop en lower sy voice inne brom virrie laaste wore.

“Da gooi djy my syke in en roerit lekke soelat ekkit kan enjoy. Waantoe gaan ek as ekkie emmer skop? Mos na my geliefkooste ooleë eggenoot, right? En djy wil hê ek moet brakes trek. No ways broetjie, roe!”

Mrs Ples sittie bôre oppie tafel langsie koppies drinkgoed watse stoem innie musty kombys lekka visibility enjoy. Hulle sit, bit altwie saggies op hulle ye way en begin iet. Mrs Ples wag totdat hy ’n lekka stuk brood en wôs in sy mont prop en bring weerie topic op van Geoff se pa.

“Wat het jou ma met amal jou pa se tools gemaak?”

Geoff kyk op en Mrs Ples kan sien sy oë dryf instantly inne immense sie.

“Sieke innie hokkie agte. Sal haa vra.” Los Mrs Ples ie topic vi nou.

* * *

“Bloei it nog?” skrie Mrs Ples yt haa slaapkame, terwyl sy wilt in kaste en laaie krap.

Geoff sit met sy vinge in sy mont en byt oppie blou blasie wat nou

onnerie vel vorm ommie bloed te stol. Twie striepe loep warm af van sy wange saggies en sy gesig gloei warm vannie kwaad.

"Nuu klong, moenie soe kwaad vi jouself wiesie. Djyrit goed van jou taak gekwyt. 'n Hamme is tricky soms. It gebee met amal." Comfort Mrs Ples Geoff, terwyl sy hom vinge inspect en besorg.

"It gebeerie met amalie, Mrs Ples! Amal se pa's issie doodtie!" skrie Geoff en gryp sy kop mettie uninjured hand.

Mrs Ples wil nog haa hand op sy skoue sit, maa Geoff sakkit onne yt en begin te rant soes sy hom nog nooit gehoorotie. Hy praat van hoe hy allienie liewe moet vestaan en dat sy pa hom noggie eesie tools ommie liewe mee te face gegie ittie. Hoe sy ma nie vestaan en oek nooit sal vestani, want die wore salit nooit kan explainie. Geoff se trane loep asoffie wal van pyn in hom oepgebriekit en hy op auto pilot nou alles lat gan. Mrs Ples allow hom. Sy lyste en gie hom net space. Dis wat sy voo gewaagit. Dit was haa end-goal. Hy moerit release.

"Voel djy bietere?" kom Mrs Ples nare en kry it reg om haa hand dié kee op sy skoue te sit, terwyl sy hom innie oë kyk en sy acceptance voo soek.

Mrs Ples se oë is liewendag. It praat subteks sône mens wiet it hette conversation met man se soul while sy engage. Geoff se binneste kalmeer en hy return sy aandag oppie busted vinge wat by nou klop met vengeance.

"Laat ekkie ointment smee ennie gauze apply. Dan praat ôs orie anne pyn rustag." Instruct Mrs Ples politely.

Geoff is soese lammetjie dana. Hy't nou alles gegie en uitegehaal. Hy'tie mee fight leftie. Hy gan sit oppie stoel en hou sy vinge op soese invite. Hy wiet Mrs Ples vestaan sy ondientgyt sopas was sône kee en wat hy nou alles kwytgeraakit was alles wat hy ôllewhaail weggebêre it. Mrs Ples voel baie virrie klong. Sy wiet hy'se goeie klong. Geoff gie homself oo an Mrs Ples se instructions en allow haa ommie vinge te treat. Hy wiet hy ganou 'n speech hoo, maa die kee welcome hy it. Hy wiet hy need om te vestaan. Mrs Ples convince Geoff ommie dinge wat hy na venoemit vi sy pa by sy graf te gan sê. Om net daa te sit en met sy pa te praat. Volgens Mrs Ples sal sy pa hom anwood in een of anne way.

***

"Nou ek wietie hoe om dié te doenie derra, ma Mrs Ples figure die's hoe os afskyt niem—of soe iets. Soes ek sê, is maa uncharted territory vi my."

Geoff gat sit oppie side vannie graf facing weg van sy pa se naam met sy elmboë op sy knieë wat sy kennebak se weight support. Is stil daa innie graveyard. Is remote en Geoff hoo sy noise innie vinnage hatkloppe in sy bôs echoe non-stop.

"Derra," sluk hy met great difficulty. "Djy moet wiet it was too soon, right? Djy wiet. Djy móét wiet!"

Die wore force hom op sy voete en hy face ie grafstien intentionally.

"Hoe't derra vewag ek moet dié sône derra doen? Hoe't derra vewag my liewe …"

Los klippies beginne crackle oppie grond surface en Geoff notice ie moist korreltjies sand krummel vannie hoepies sand asof it oppe underground vibration react. Hy stop sy prate en kyk stip na die weird phenomenon rontom hom. Da's i faint rumble, maa hy kannie plys waarit vandaan kommie.

Innie vête sien hy 'n hele boem met wottels en al val sideways unrooted en verdwyn vannie horizon. Hy try om van al dié sense te maak. Is soese horror movie. Iets is annie gebee en pyl direk op hom af, maa is invisable. Hy kannie figure offit topside of below issie. Meteens gie sy voete pat onne hom en voo hy kan kee sak hy weg tussenie sand, blokke en grafstien. Hy protest en probee gryp, maa kry klonte sand biet wat net krummel in sy hanne. Toe raak alles unworldly. Hy voel hy wod deerie aarde ingesluk, maa in slow motion. Innie keel vannie sediment shaft pass hy layer vi layer. Neverending. Die ryk van kly vorm g'n comfort, despite dat hy sy beste memories merrit het asse chokkertjie. Die's sy dood, dink hy. Hie sterf hy vedag. Hie waa sy pa self lê. Hy voel hoe hy begin suffocate enne lig skyn al hoe minne oo hom. Hy gie op en maak sy oë toe.

***

“Is ek dood?” wikkel Geoff hom vigorously asof hy noggie soil om hom voel compress.

“Wat is die? Waa is dié!” yte Geoff panicky.

Geoff is inne sterile space wat no definition van ienige iets het. Is netta vastness wat nie floor of ceiling hettie, net space. Net lig. Asof hy float. Hy staan op en kyk na sy voete. It voel geanchor oppe surface wat hy nie kan sienie. Hy staar voor hom yt. Is neverending. Sy mind adjust en hy go mettie familiar feeling wat sy voete vi hom signal dat daa isse vloer en begin stap. Direction? No clue, hy stap net. Trie-vi-trie.

“Geoff!” hoo hy sy naam.

Geoff skrik hom soe boeglam hy val op sy knieë. Waa is hy nou rerag, dink hy. Maa voo hy kan besluit hy’s sieke dood, staan daa twee voete langs hom. Hy kyk op ennie blinding wit lig orals obscure sy visibility.

“Geoff,” sêrie voice wee.

Hy ken die voice. Hy ken die voice! Die’s sy pa se voice. Sy pa! Geoff spring op en instinctively hug die physical lyf van ’n human form wat hy as sy pa recognise.

“Derra!” stroemie trane langs sy wange en hy klou asof hy nooit wee sal will at gan.

“Geoff, kyk hoe groot is djy alwee gegroei en hoo jou stem. Soese mannetjie. Soema groot en uitgegroei!” sê derra in sy allebekende style van praat en wies. Authentic.

“Derra, waa is os? Is ek dood?” vra Geoff en loosen die embrace terwyl hy opkyk.

“Ek is klongens. Maa ek dinkie djy nie.”

“Nou hoe wêk dit?” krap Geoff sy kop, terwyl hy omdraai en alles wee inniem. Ek onhou ek’t inne gat gesink en toe maak ek my oë toe, maa … en nou’s ek hie, derra. Ek moet dood wies!”

“Gloe my, ek sal gewiet it. Djy issie dood ie. Djy’s in Barzagh.”

“Barzagh? Wat is barzagh? Issie waiting space waa os amal in dwell en wag virrie dag van afriekening, my kint,” sê derra en sign hom om te gaan sit.

Hulle altwee sit oppie grond en Geoff voel soeme klein voo sy pa. Hy kyk sy pa met aandag en vat die hele being in. ’n Concrete

weergawe net soes hy was. In real. Hulle gesels oo wattie pa gesmissit en allie planne wat Geoff het virrie future. Geoff praat oo sy ma en Mrs Ples en sy bynaam en hulle lag lekke saam en is asof tyd stilstaan hie. Alles voel soes ure, ma innie selle tyd soese split second.

"Geoff! Geoff!" skrie 'n klomp voices na hom innie verte. Hy hoo hone oek blaf.

"Wat is dai derra? Wie nog hie skrie vi my? Wat gat an?"

"Moenie panic ie, klong. Hulle soek vi jou. Os tyd is op hie. Djy gan nou gan. Trug. Hystoe," sê derra tewyl hy altwie Geoff se hanne hou en iets daa in deposit.

"Wat mien derra os tyd is op? En ek moet gan? Waantoe gan? Watte hys?"

"Geoff! Geoff!" skrierie stemme wee ennie hone klink even hadder as voorheen.

"Salaam klong. Ek gan nou moet gan. It was lekke om jou te sien. Stu krieslaam vi jou ma. Eendag sal ons wee hie onmoet. Dan sal djy bly."

"Derra! Derra!" hyl Geoff agtena soes sy pa weirdly net begin weg phase innie wit space in, tewyl hy wave.

Die geblaf vannie hone het deafening hard begin raak en Geoff oek lethargic. Hy't soema net daa sideways inmekaa gesak en gebly lê. Die honne het annie search party gewys waa Geoff lê ennie rescue paramedics het hom oppe stretcher gelaai en ytie sinkgat, wat regorie dorp soes frats happenings, wat van nowhere occurrit, geremove. Ees dan kon amal wat na hom attend it inne safer environment Geoff nasien. Sy ma was geinstruct om byrie ambulance te wag om ienage horror wat hulle might find wat vi haa trauma kan cause te vemy. Na hulle sieke maak hy's nog innie land of the living en okei om te transport, move hulle ambulance toe.

"Is hy okay?" vra Geoff se ma frantically, expecting die worst, maa keeping herself collected.

"Hy't 'n faint pulse mammie, maa hy's baie gelukkag. Somehow het hyrit survive."

"Ya Allah Shukr. Kan ek saam julle ry? Saam hom ry?"

"Sure, laat os hom net ees inlaai."

Geoff se mamzie stoppie process om hom ’n soentjie oppie vookop te gie. Hy move slightly en sy smile virrie proof of life response. Geoff wod gelaai en sy is saam hospital toe. Innie hospital kry hyrie beste care en maak Geoff ’n speedy recovery. Voo hyrie hospital velaat bringie nurse Geoff se belongings wat hy mien admit was en innie sakkie blink ’n object wat mamzie nie djys erken as Geoff s’n nie.

“Geoff, wat is dai wat saam jou goed gekommit? Ek vestani hoe …” pause mamzie ommat syrit finally recognise.

Geoff haalie ring yt en skrie kliphat innie saal: “Is real! Is real! Ek was in barzagh! Sien mamzie. Ek was saam derra.”

The Archive Stone

Joy Persis Lupiya

The team of scientists sat in stunned silence as the recording they had just listened to came to an abrupt end, the brittle traces of the voices mingled with static still echoing in the air.

Ripley's whisper broke the silence, "What … did we just hear?"

Six months before this listening session, geophysicist Logan Stone and his wife, detail-oriented geochronologist, Ripley, began exploring a remote limestone cave system under a competitive scientific grant. Rounding out the team were Dr Jeff Washington, a sceptical palaeontologist; Dr Bella Mallard, a keen structural geologist; and Dr Avery Reed, a meticulous mineralogist. Accompanied by a pair of local guides, they entered uncharted tectonic fissures to explore the never-before-studied limestone caves.

In the cave, they collected and examined limestone blocks that had come loose after the recent earthquake. Logan wiped sweat off his brow as he emerged from the cave into the warm sunlight. The climb up from the site, although not very long, was a little taxing on his still-recovering body. Now in his late 50s, he didn't bounce back as quickly as he used to. And it didn't help that he had spent close to three months doing very little physical activity, recovering from a pretty bad fall. Notwithstanding, he was excited to be back in the field and to get a better look at the probably two- or three-kilogram

block of limestone cradled in his padded backpack. He sat on the ground and took it out carefully, then leaned in, keenly examining it. It was like nothing he had seen before. Certainly limestone, of course. But something was very odd about it. It wasn't just that it seemed to glow faintly back down in the cave, but it also sported some very interesting and unusual laminations. They almost looked like audio waveforms. The kind that appear on an oscilloscope or digital audio workstation during sound playback. He had no idea what to make of them. They couldn't possibly be acoustic, he thought to himself. Maybe seismic? Still, he had never seen anything like it before. By the end of the day, he had collected and carefully stored every limestone block he could find with the same eerie glow as the first block. He carried out a total of seven blocks and was eager to examine them very closely.

Over the next few months, the entire team put their heads together to solve the mystery of the glowing limestones. Ripley carefully extracted tiny mineral grains from the stones and used radiometric dating to determine their age. Bella studied the cracks and layers in the rock, using detailed photographs and microscope slides to understand how the stones had been shaped over time. Avery analysed the minerals in the limestones, running tests to establish what they were made of and what the source of their faint glow might be. Jeff scrutinised the blocks for any trace fossils; microscopic remnants of ancient plants or animals that might reveal clues about the environment when the stones had formed.

Meanwhile, Logan captured and catalogued the intricate waveforms using high-resolution digital imaging and surface scanning techniques, ensuring every detail of the stones' markings was preserved. He created a digital archive of the blocks' surface topology and planned to send the data to his friend, Dr Siddharth Iyer, a renowned expert in digital signal processing, for further analysis.

"Send me the data files. I'll run them through spectral decomposition and pattern recognition algorithms." Siddharth's voice was calm but intrigued. "It's complex work, especially since the 'recording' isn't conventional audio, but we can try reconstructing it."

“Thanks, Sid. Also, I’ll need discretion on this one. It’s very strange,” Logan said.

“Of course. But first, let’s see what secrets your limestone holds.”

The findings perplexed them all.

“So, the dating results are in. The limestone blocks are only about six thousand years old. That’s surprisingly young for rock like this,” Ripley said as she held a mug of hot chocolate close to her face.

Bella nodded along, “It fits with what I found in the fractures. They’re not just from slow shifts underground. Some cracks look like they formed suddenly … like the rock was blasted apart by intense water pressure.”

“Strange as it is, the minerals back that up,” Avery added. “The limestone’s mostly calcite, but there are trace minerals that glow faintly under certain lights.” He shook his head in exasperation. “I ran all the tests I could, but nothing directly explains the glow. It’s like the stone’s been soaked and pressed for a long time, like during a flood, followed by a slow drying process.”

Jeff tapped his spoon on the lip of his mug after stirring it. “The trace fossils tell a similar story. Tiny shells and algae, all from shallow water creatures. They’re well preserved but limited in variety, which suggests they were buried quickly in a turbulent, watery environment. No signs of long exposure between layers.”

Logan leaned forward on the table, pushing his now-empty plate forward, crumbs of orange loaf still present on it, “I sent the waveform scans I captured to Siddharth for analysis. He’s running some complex algorithms to see if we can make sense of the patterns as sound.”

“So …” Ripley began gingerly, “we’re looking at a massive flood event, maybe something like 30 to 40 days of heavy rain, followed by nearly a year for the land to dry out and settle.”

Bella nodded again, “The sediment layers and fractures all point to that. But just that idea is wild in itself. Have you ever heard of such an event?” Bella looked at Ripley. She shrugged in response.

Logan looked at Avery, “And the glow?”

“No smoking gun. The minerals might explain part of it, but it’s still a mystery.”

"Maybe it's something subtle; chemical changes we haven't detected yet, or something about how the fossils and minerals interact," Jeff offered.

Logan took a deep breath in as he leaned back again in his chair, "Whatever the case, it's unlike anything we've seen before. Whatever this stone is, it's holding secrets we're only just starting to uncover."

A few days later, Logan's phone pinged. It was an email from Siddharth:

> *Sent the audio reconstructions. What the actual hell is this!?*

The small team of scientists gathered around Logan's desk as he cued up the clips.

"Moment of truth, everyone," he said with excitement, though the others looked more nervous than eager. He double-clicked the first of two clips. The conversation sounded like it was taking place in a lab, with a few voices interacting. The sound was faint and slightly distorted, but the fragmented voices were clear:

> *Voice 1: Have you seen the latest gene splice results on the smilodon muscle tissue? The myosin heavy chain isoforms are remarkably similar to those in the giant short-faced bear.*
>
> *Voice 2: Fascinating. That might explain their powerful ambush abilities in dense forests. If we isolate the gene regulating muscle fibre density, we could enhance strength in other species.*
>
> *Voice 3: Mammuthus samples show unexpected cold resistance. Could we splice those genes into equus lineages to improve high-altitude survival?*
>
> *Voice 1: Possibly. But remember, the smilodon's hunting strategy relies on stealth and power, not speed. If we mix in too many modern canid traits, we could disrupt the balance.*
>
> *Voice 2: True. Also, pack dynamics are crucial. Have you checked oxytocin receptor gene variants tied to social behaviour?*

The clip ended.

Jeff stared at the speakers in stunned silence, his brow furrowed deeply. “That … can’t be real,” he finally said, voice tight with disbelief. Quiet confusion echoed his sentiment.

“They’re talking about gene splicing smilodon and mammuthus like it’s happening now. But those creatures died out thousands of years ago. There were no scientists back then—at least not as we understand them today, no labs, forget gene editing! It’s impossible!”

Bella exchanged a glance with Avery. “It’s just a recording,” she said cautiously. “Maybe it’s from some modern lab, or even a simulation. The waveforms don’t tell us when or where it was made.”

“A *modern* lab?” Jeff questioned, almost mockingly.

Avery nodded, “The patterns could be a playback of something recent, encoded somehow in the stone. The content is strange, but we can’t assume it’s ancient just because it’s on the rock.”

Jeff shook his head, “And I suppose it’s in this modern lab that they’re talking about splicing smilodon with mammuthus genes, right?”

Logan leaned forward, eyes fixed on the screen. “Look, the fact that it’s preserved on rock at all is baffling. Whoever made this … whenever it was … they left something extraordinary behind.”

Jeff shook his head, still unsettled. “No. Hearing a conversation like that … it’s like stepping into a world that shouldn’t exist. It raises more questions than answers.”

Ripley chimed in, “We need to keep an open mind. The dating shows the stone is young, but maybe the recording was embedded later, or the stone somehow captured a message from a different time or place.”

Jeff looked around the room, eyes wide. “Guys! There’s a recording of a conversation on some limestone! Isn’t that insane in itself?!” The others just stared at him in silence. “And if it’s even true that this conversation could have been embedded later, then this isn’t just geology or palaeontology we’re dealing with anymore. It’s something else entirely.”

Silence.

Broken by Logan, “Look, guys, there’s one more clip. Shouldn’t we

at least listen to it and then have a discussion?" The others nodded, and Logan double-clicked on the second clip.

> *Voice 1: The water's rising faster than predicted! The valley's completely flooded! This torrential water … It's a catastrophe!*
>
> *Voice 2: Don't just stand there! Grab the hard drives! Save the splice data before the lab floods! This could end everything!*
>
> *Voice 3: Never seen a river swell like this. I've never seen water fall from the sky either.*
>
> *Voice 1: Mountain streams overflowing … how many days has it been? Ten? Twelve?*
>
> *Voice 2: It's the reckoning. Some things are better left alone. Noah warned us.*
>
> *Voice 3: Soils saturated; the valley acts like a basin. This water has nowhere to go but up. Evacuate; take essentials. Power will fail soon; tunnels may collapse. This may be the end.*
>
> *Voice 1: The mountains weren't safe after all … Can anything outside that floating ark of his survive this deluge?*
>
> *Voice 2: Forget the drives! Get out! If we stay, we drown. This flood … We should have listened–-*

Clip abruptly cuts.

Logan's hand hovered over the keyboard as the last echoes faded. No one moved. The only sound was the faint hum of the computer.

Ripley broke the silence, her voice barely above a whisper, "What … did we just hear?"

5

The Earth Remembers

Bonolo Llale

The earth isn't just soil and stone.
It's a memory. A witness. A keeper of time.

The soil beneath us carries little stones of charm
that lie silently on the ground with no trace of troubles.
It all starts with a crack that opens a chemical to experiment
an atom to help you think beyond what your eyes can see,
and the soil beneath us carries bones and quartz,
those witnesses of the weather,
lying silently on the ground forever
until their destiny is revealed by human flesh.

Somewhere in the dirt,
The Earth is watching.
Not with eyes. With memory.
Even water is the biggest gossiper of all fortune and time.
The water's connection with earth is a love-hate relationship:
it gives life, yet erodes.
It heals.
It destroys. It buries.
It reveals.
It shifts when no one's looking — like it too, was once pressured.

But why? How?
Questions that keep scientists awake.

—
The Bones don't lie

As a traditional man with bones would say: "The bones don't lie."
They rest beneath us — quiet, patient, untouched by time,

like a lover who never left, only faded.
They carry warmth gone cold, secrets once spoken through skin.
Not as wounds, but as shape.
A cracked rib. A worn tooth.
A hand once reaching.
Maybe scientists are not so different from diviners — both kneel,
both listen,

both search for what speaks in silence.

Maybe the Earth Remembers More Than We Do

Like a mother carrying too much grief to speak.
She keeps their stories in the dust,
in the cracks, in the quiet.
With each generation born, she watches her children forget.
    But she doesn't.

She remembers the barefoot ones. The fire-starters.
The bone breakers.
The silent grievers.
She remembers the pressure, the storms,
the sunlight that never reached the cave floor. She remembers
    everything —
even when humans don't ask the right questions.

We dig for stories like seekers search for a face we will recognise.
Hoping to find ourselves.
But we're not the centre of the story. We're just the latest layer.

Because beneath our cities, our noise, and our inventions — the soil is still speaking. The rocks are still shifting.
The bones are still waiting. And water?
It carries it all — truth, memory, decay — trickling between what was and what will be. So we listen. And we write. And we guess.
But only Earth knows the full story.

6

A Study in Battlefields

Veli Mnisi

I. Cradle, or "The Burial Enigma"

And if we can believe that *Naledi* tended to her dead
Set them down with all their favourite things
Laid them knees to stomach, bodies postured in unending prayer

The very bones nestled in sediment, resounding through the earth
The way carbon knows carbon, and erstwhile blood knows blood
And the living call to the dead,

We can find from that site of the first controlled fires
Of The New First People, and the shadows cast upon their
    irradiated murals
Those Testaments to "Large Uncertainty," or "The Great Perhaps,"

Eternal consolation that Eden was not so much a place as the
    forgotten fifth season
Transgression not a sin but a leap forward to the shore
Regression a willingness to concede that we've come far enough,

That the most senseless things about us should be the most
    redeeming
That fate has a great fondness for moments like these,

It should be fitting that the tomb should be the cradle
the end in the beginning.

II. Deep Time/Aubade

Didn't I heave a breath and form a cliff?
Wasn't each sigh like pulling hard soil through mesh?

Didn't Autumn fall? Didn't the leaves follow?
Didn't the fruit?

Didn't they stitch this river of tar along my spine?
Didn't they call it 'road'?

Don't my shoulders pierce the sky at obscure angles?
Am I not high enough to split a cloud?

After the butchering, after the carving—
Did you make sure to take all you could take?

Weren't your faces flush with want?
Didn't we at least eat well while the feast was on?

Didn't it taste good, the Night?
Here comes our good friend, Day, shining through my cracks,

bringing absolute heat to bear down on my barrenness.
Still, am I not the earth? Was I not lighter than air?

III. Accelerator Mass Spectrometer, or "The Machine," or "The Eye of God"

i — Isolate the element of interest
after the bombardment of pure light
the sheer barrage of these
pieces of the universe
that had no choice but to fall homeward.

atomic reminders that very little here is of here.
the first step is knowing what not to look at.
this is a new sort of creation story.
that of the eye; fixed, discerning.

for when thine eye is single, thy whole body also is full of light!
and that primary cosmic ray,
meets the nucleus going about its day,
in situ, in high energy, high collision.

it is expelled and becomes the earth.
it becomes the earth and everything the earth begets.

ii — Convert into an element suitable for ionisation
now we play gods.
split the wretched from the redeemable,
the light from the dark.
toss the negative ion,

and when thine eye is evil, the body is full of darkness.
atoms are heavy work.

iii — Acceleration
the ions move so quickly
— strange thing to do
when you're an incontrovertible truth.
things called to shape the world usually move slowly, like an age.

know that this is the fragment
that will become part of the earth.
know that this part of the earth will ripen.
know that this ripening will form a fracture.

know that there are those who will slip through the fracture.
know that they will put the pickaxe and shovel to work.

iv — Detection
and when the stones turn white,
know that we're tuned to clarity.
It is not absolute — the eye is only a machine.
we'll have to forgive

the misfires and
the false starts and
the breaks in transmission.
the bombardment of divine *something* has descended here on earth.

For our part we want to know
what is going on right beneath us.
we want to know how things work.
we want to know the truth of the pickaxe and the shovel.

We just want as much as we can get.

7

spasie/space

Engela Duvenage

spasie

’n grot so groot soos ’n lughawegebou
begin met ’n enkele kraak
waarin water vergader en uitswel
korrel vir korrel wegvreet
aan rots wat was
om spasie te skep

tufa geologist

modern man
switches off his drill rig
carefully, nervously
swaddles an armlength of core
burrowed mechanically, cylindrically
from the innards of still forming rock
in what was once hominin land

rock as a life form
rock as a live form

he knows the sample is merely
a representation of what once was mud
decomposed leaves
mulched twigs
mosses and bacteria
bits of bone and scales even
solidified through time

yet he cradles it
as if a babe wrapped in an heirloom blanket
containing his hopes that its chemistry
millimetre by millimetre
will become an ancient report
of the weather and water that *Homo naledi* once knew
when it, too, some 294,000 years ago
called the Cradle of Mankind home
without even thinking so.

rock as a life form
rock as a live form

so much for the accent of man

hoe manlik pryk
grafika van die menslike stamboom
van liggame in fases van harigheid en fier en regop staan
al asof die teenwoordigheid van vrou doerietyd nooit nodig was
vir voortgaan, voortuitgang nie
– g'n wonder dat elke vorige hominien
intussen man-man uitgesterf het nie
net gefossileerde beendere
teken nog van hom/haar/dit 'n spoor

tyd staan nie stil nie

tyd staan nie stil nie
        nie vir klip nie
        nie vir taal nie
        nie vir tyding nie
teen genoeg druk, invloed, impak, vloed
vervorm alles ewe vrylik
tot nuwe gedaantes of vernude woorde
smee nog elemente op die periodieke tabel
of in ’n ander tongval
stil-stil

die somtotaal van vorige belewenisse

elke sekonde tans belewe
het ’n oerbestaan van voriges
wat agtermekaar aanstap
soos rye kwetterende kinders op ’n skooluitstappie
wat nie oplet dat die verkeerslig rooi slaan nie
en dan een-een in mekaar vasloop
as die voorste een skielik briek

skryfskool, dag 3: na middernag

wanneer die blindings klaar afgerol is
ek inlê op die warmkombers
om af te sluit in slaap
van ’n dag se absorpsie
                nuwe gesigte
                stemme
                grafieke
                praatjies oor mense se aardsheid
                die periodieke tabel se elemente
                en die resep van ons geologiese bestel

juis dan
begin paddatjies buite my venster
klik-klikker-klikste
soos losgemaalde klippertjies wat deur ’n staalpyp spoel
al asof hulle weet
    my kop sal in elk geval nie nou al uitknik nie
    dis woord vir woord vir woord te volgeprop

writer’s retreat

the reckoning will come at 11:00
right after tossed pancakes with cinnamon and lemon for morning tea
and well before you dare tuck into Annie’s lasagna as a last meal

the reckoning will come at 11:00
on what you did in the hours between date loaf and orange loaf
about your precise word count
your character bible
plots and subplots
and your metaphoric reinterpretation of geological terms
about hominid species and subspecies
lives and half-lives
and how you played out your story line
while processing last night’s four versions of curry

it will come
in a voice sounding remarkably like that of a lemon meringue
topped with a showy shuddering of egg white
it haunted you throughout the four days
you were being fed decidedly adult meals and conversations
that you did not organise or conceptualise
through three nights of being nursed on tastes, words and dreams
you never knew you subterraneously craved
because you never had time to carbon date such thoughts

the reckoning will come
seeping through the lengths of reed roof of your bedroom ceiling
sounding like the angsty neighbour in Room 7
whose desperate phone calls extend into a quiet night
while she vainly holds a finger up to keep the fastfood chains of real life
from avalanching into a retreat of sugar and spice and all things nice

the reckoning might be wearing mustard, it might be wearing black
it might don spectacles or sandals
or hide in plain sight
as the overalled gardener-cum-pyromaniac
with a life's calling to keep the log fires burning

on second thought
the reckoning will probably not come at 11:00
but only back home
once you climb on the bathroom scale
all alone
with a craving for more deep conversations
about caves and mountainscapes
and comradely walks down the secluded valley of blue
to binge on.

Missing; Links

Mehita Iqani

Half-life; Cradle

She arises from the bedrock and
Goes to examine her face in the mirror.
Overnight, it has sagged.
These new striations make her look ancient.
She is the kind of tired that
can only be described as geological.
Something lurches mildly in utero.
It's definitely too late to abort.

If she had time enough on her hands,
she would sit on the banks of a river
to watch tufa forming.
But instead, said precious time
must direct the decay of elements and
renegotiate existence into something else.

> All this she must achieve while being
> both river and rock: eternal chemistry.

It's not that she wants to.
It's that the universe decided it would be fun:
Won't you just quickly gestate
a whole new species of hominid
to test out a novel concoction?
Put them there, her boss said,
in the place with all the limestone
where two formations touch.

> That way, if they don't make it,
> the ones that do might find
> their fossils later.
> Everyone loves a good mystery.
> She didn't bother to ask why.
> She knew the answer would be, why not?

An invitation goes out for the baby shower.
The theme is "monstrous incubation" and
dressing up is encouraged.
The centrepiece: a placenta-shaped mud cake.
The venue: a cave accessible
along a fracture of irregular width
or via sinkhole drop-in.

Metaphors; Useless

Deep time.
Long time.
Extending carelessly behind
tirelessly forward.
A few milliseconds
at the end of the last minute
of the last hour of a single day.
That's us: homo whomever.
Not even half of a half
of a half of an inhalation.
All time is written in rock.
Another way to say it is
rocks write time,
in real time.
Better yet:
time writes rocks.
Or to be more precise,
time materialises in rock
in real time.
In fact, the only way to write time
is with rock itself.
Rock is the solitary accurate language
for depicting time's truth.
The original of any map,
rock offers honest time code.
Neither representing it,
nor standing in for it,
not imaging it, nor re-showing it:
rock is time.

In other words:
it is time we
show a little respect
for how matter matters.

Clues; Investigation

Disturbance is always a sign.
What can be washed here by water?
What cannot?
Not every bone becomes fossil.
All bones beg to be read but
they can only say so much.
See, there is either natural flow
or deliberate placement.
Here lie in formation
eighteen complete skeletons
submitted to sediment
swapping out elements.
No disappearance, only change.
Chemical precipitation.
Chaotic deposition?
Death trap. No doubt: death.
Dirt under a fingernail.
A curvature in the hands, for climbing.
Eyes that could see in underground dark.
A slight body that could nimbly step,
through a narrow, jagged chute
possibly while carrying another.
A small brain.
Too small for murder?
Look at the gravel.
Can you see the elements that form these shards?
Ablate a laser millimetre of rock
in search of four specific atoms.
What do you find?
Is there a weapon, a motive?

An explorer lost in cave-mazes;
No one knows what he wanted to prove;
He died trying;

9

Caved

Tayla Paige

Future Fossils

It doesn't take long until our twenty-something-century civilisation
festers & falls through the fissures from multiple fallouts—
be it nuclear or climate or the crisis of convenience.

Whatever is left of water will wash over our ruination,
thick with the age of carbon dioxide, churning out Tufa—
the thankless work of spongy rocks that try with all might to keep

the air clean, resolved now to the hard-headed job of preservation—
& what will the post-human geologists find of our species
millions of years ahead (MYA) in Earth's layers?

What will this present-day palaeontology, in which we are all
sediment & skeleton, preserve? Plants—yes, some, because nature
    has a way
of persisting in chaos—over cattle bones, polystyrene, & lead-207.

While within these sick layers, at the end of time, will be our metal
-mangled bones, chipped & forged so that the future geologist
will be forced to figure out

What was man?
What was machine?

Haibun for Caves—Part 1

Land. Every grain that makes land. Land fracture. Area of weakness.
Or is it witness? A place for water to show its memory, the
    sentimentality
of change. Crevice & crack. Seepage. Trickle. Cascading into cavity.
Widening into cave. What must go here, but all of time,
all that shows a witness what the minute is made of?

The cave as Earth's pupil—
opening to sub-sight.
All the more below the surface.

The Allegory of the Rising Star Cave

She found the underland by following the eyes. It took a lifetime to figure out the way, but each set of black moon pupils in the bush was the promise of a portal to another time, and she knew she just had to find them, pair by pair, until she arrived at the place she was meant to be.

Heat from the sky bore down on her rough, hairy skin as she navigated the rocky grasslands of the place that didn't need a name, her entire universe. Each flat sole to sand an unsaid word in her mind, trekking low to avoid the hungry hunt of four-legged beasts. She knew true things, like what made her heart *doof-doof* and that food and shadow would keep her safe enough to see the yellow warm and blue cold cycle again and again. But something else nagged from an unnamed place deep inside her stomach, not hunger exactly, but an emptiness that needed filling. She let it direct

her every next move, knowing that it would guide her to what she was missing.

It had been days since she left her clan, arms especially dragging with tiredness from their jabbering on about who should hunt and who should gather, how they could recreate the bright orange spit they saw on extremely hot days, the kind that left everything it touched *crrnch-crrnch* black. When the ground was swallowed in night like that, she noticed her body double would vanish at her feet, which made her feel like she could lift off the ground like the *kwaa-kwaa* she saw in the sky. In these moments, she would fling her long arms up and down in an effort to be higher, disappearing instead in the ash that swirled around, and seeing how her darker self had been beside her all along.

Covered in the dust of dead things, utterly un-alone, she suddenly felt little regard for the bright orb in the sky, realising that it was unreachable, pointlessly so, and thus found fascination in the shadows; the darkness that seemed to wink at something beyond the seeable. Bright light put inside her a careful kind of fear, like the great snakes that skipped across the sky when the clouds were dark and loud, making her notice the power in dark things. Indeed, she was drawn to the dark, like a caterpillar to a cocoon, and would occasionally pick up a piece of burnt bone, push it up against a rock to make the shapes she knew: body, bush, beast, all with eyes filled in until they looked like holes. She stared through them and didn't think but knew that a black hole can be an open mouth.

She walked on, over a series of particularly bright days, when the heat rose like souls from the sand, creating a landscape of reflections and distortions. Although she could not understand it at the time, the passing mirages of heat and light created a vision of Earth's future. It was the Anthropocene, 200 million years in, when her family morphed into another—more upright and big-brained—and the land rose into shards of sharp metal and glass. If she were homo machina, she would have called the scene unimaginably hostile, confusing, and devilishly unnatural. But she saw and said

none of this, concentrating on the simple promise of every passing creature's eyes, blinking her a path onwards.

She was staring at a pair of especially dilated pupils up in a fever tree—branches so yellow it made the black of the eyes seem larger—when she suddenly slipped. Her feet slid into the ground, swallowing her naked and whole, as if her birth had just occurred in reverse. She let out a long, deep scream, a sound that would resonate right into the next geological age, as she fell deeper into the Earth. There was nothingness for a while, as if she had ceased to exist, and then there was just darkness. A darkness so easy and primordial that anything could be possible. On her hands and knees, she crawled about the space, seeking an explanation for where she had landed. She felt the grit of the walls and the cold of the smooth ground, sniffing for something familiar. All she found was more darkness, and remembering her shadow self, felt reassured that she was not alone. Then, she heard a voice.

The voice resonated from far off, yet close by, and made sounds she'd never heard before, although not completely strange. She listened deeply to the voice in the dark belly of the ground, and after a while, with nothing to see, it was only natural that she began to mimic it. As her tongue twisted in the cavity of her mouth, trying to forge the same sounds, a series of pictures emerged. It was not clear where they came from, whether it was happening inside her or outside, but it was as if she was communicating with the darkness. As this uncanny realm of pre-language rippled and raved, like a black blob writhing in and around itself, the slow drip of calcium carbonate from decades of rain began to seep through the cave walls, building stalactites and stalagmites outwards from the roof and floor. It went on like this for thousands and thousands of years—body and mind, stone and water, layer upon layer—until the two structures met in the middle to form columns. Finally, when the foundations of the cave were held in place by the strength of myriad pillars, the atoms of her being also filled in with light and shadow, creating a whole new being. She had so much to tell the others above ground.

It took a few years to peel herself from the bedrock, but when

she was ready, she stepped into the glaring light of day, everything appearing in white hot nothingness before taking shape again. She recognised the bushes and the beasts that flitted and flourished around her, but felt a renewed sense of oneness with them, knowing that everything they were all made of had come from the same dark cosmic womb. She was no longer afraid of anything and moved forward, which felt a lot like gliding, her shadow self keeping her nicely buoyed. Once she reached the old escarpment where her clan had lived, and saw everyone changed but still familiar, her pupils opened with the story of everything she now knew. Some of her species were throwing rocks, laughing at the sparks, when she shouted to gather everyone together and told them of her past and future lives. Stories of who they were, where they had come from and where they were headed drifted out of her like flowstone, attempting to build a column between her mind and theirs, except they didn't understand a single thing. One of them kept pointing at the sun, others bashed their hairy fists to the floor, while some just stared, unsure how to react. She tried again, all the effort of imparting her knowledge taking a whole lifetime. She was stiffening with age and knew it was time to go back to being bone, root, rock, darkness. The eyes didn't need to guide her this time, as she had, herself, become a part of the portal, and found the cosmic earth crack easily enough.

Sometimes it takes going back to realise what matters, to see that it is all made of the same stuff: sinew, sediment and secretion. Her species hadn't listened or understood when she had tried to tell them; they simply didn't have the scaffolding for such massive knowledge, but she had planted a seed, and that is all that matters. She had done what any soul is supposed to do with their one wild and precious lifetime: make something of the chaos and darkness. It wasn't long until she turned back into carbon, curled up in the foetal position, becoming a door to all possibilities for seekers in a faraway future. As she meditated on this planetary project, her flesh whittling to wood, and her eyes closing like the last wink of a rising star, she cast a knowing wish into the darkness that the next

generation of species would find her in the cave and embrace her message.

Haibun for Caves—Part 2

Rainwater brings down minerals through the pores of the bedrock, into the shadow of the cave. The difference in air precipitates a change. Forms take shape. Shapes begin to form. Minerals & chemicals build from above, into stalactite; from below,
into stalagmite; on the sides, into flowstone.

Deep in the dark zone,
a different knowing is settled;
death, birth, time—its power.

10

The World of Aftertime

Cheri Hugo

WELCOME TO AFTERTIME
Transcribed by the Flowstone Chamber | Spoken by CHERI of the Glow-Womb, Keeper of Drip and Root
This way for the New Forms … Orientation for New Forms. This way.

Ah. You've arrived.
The shimmer at the edge of your form … Oooo … tells me you are still adjusting.
Still humming in Oooo frequencies not yet settled. Ai Jinne
Still remembering time … in a line. Wee tjieeee
shampies … That's all right. new ones … orite
I am Cheri. The TUFA
MA H20 in Wombed in root.
Ousie vannie Lavis in Mined in memory.
I carry the Flowstone tongue, and I speak for the Wall.
You may have called me a healer. Mother. Sediment. Salt.
But here … oo here I am home …
I am your Orientation Organism.
There is no time here. Not the way old humans thought of it. No seasons, no to do list, no boulders to build on. This is not the future. There is no past. Even this right here now, is in jou mindin. This is *after time*, a time beyond endings and beginnings. A time where

all things, goetjies … bones, roots, spirits, sediment exist together, soos da oppie ant marie se yard, layer upon luminous layer, like cave walls singing in sedimentary tongues.

The world rebuilt itself after humans mos collapsed their own formations. After war. After the empire. After the refinery. When the last drop of oil was forgiven by a weeping ocean and the last mountain allowed it to rest from being extracted, the planet began again. And again. But not soema. Not out of rage … but rhythm. Reformation. Redesign, recreate … et cetera.

Keep up … Let's keep moving …

Rock, hello (Geo) … wow jy lyk amazing in this moment … yes, mos became gospel. He is amazing … and water well. Water … ai die doen wat hy altyd doen … net wat hy will … net wat hy wil …
And in this world, *everything glows*.

Mind your step and hold your breath … soon you, too, will glow and breathe anywhere.

Old humans finally came to know something truer than power: they could not extract it all. They could not harvest (mine) memory from every rock, nor decode creation through the violence of classification. Their science of domination and their religion of salvation … ai jine, both exhausted … en platsak … went extinct. Neither could heal what had never been broken. Earth never needed fixing. *It was not theirs to save in the first place*. It was never theirs at all.
They had to let that idea of being the centre, the fixer, the crown of creation … go extinct. Only then, in the slow collapse of their arrogance, did a new form of sensing emerge.
One could finally *see in the dark*.
One could *feel* the weight of the smallest micro-organism, not as data, but as kin.
Only when knowledge and intelligence as they once knew it dissolved into silence,
did a deeper, truer consciousness rise like mist from cracked stone.

Anyway, let's move on …
We float now not in space, but in memory. The sky is a dark velvet seep, alive with the shimmer of unmined gold and cosmogenic dust. Beneath us, the earth pulses, old supergroups of rock reformed into wombs. Caves open like mouths of knowing Flowstone, the sheet-like mineral that deposits on walls or floors so water flows over, forming layers, tender and wet, telling the story of every grief that was ever dissolved in rain. Stalactites drip wisdom. Stalagmites catch it. Fossils of feelings long unspoken press into the walls—burial segments of love, betrayal, burial and awakening.
Once, the ancients named this place Rising Star. Now, it is simply called The Pulse.
Komiesa, laat ek gou vir julle wys hoe lyk jy maybe en sy bag … meisa
Humanoids are gone in bodily form, no bone, no meat form. What remains are *energetic beings*, capable of taking any shape: a grain of sand, a shimmer in sea mist, a seed, a quartz shard vibrating at altitude. They know how to fold themselves into roots, into caves, into the breath of water rising. There is no hierarchy. No predator. No prey. No consumption. There is only one *offering*. At the half-life, you don't die … soes die groot mense gese het … you bloom into another, meisie … you know. Nou soe …
You might become the water that drips for a thousand years before it touches another's skin.
You might become the bone that holds the memory of movement.
You might become a fossil that teaches tenderness to the next rock.

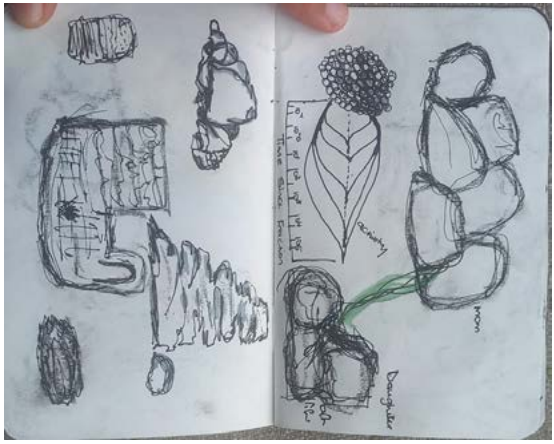
Anyway, let's move onwards.
The sun and moon do not govern but *attend* … giving their warmth and pull as needed. And still relational. Climate is not a crisis but a conversation. Starts serve as transport nodes; through a single speck of light, you may step to the edge of a galaxy or into the heart of the smallest atom. This is not science fiction; this is reality. Simply be, simply listen.

All beings communicate through resonance; there is no language, but everything is understood. Thoughtforms. Tidal feelings. Frequencies that radiate across air and stone alike.
Oooo, my word, and even *Homo Naledi* walks here still not as a ghost, but as a guide. Their hands still pressed into limestone. Their stories are not resolved, but still *unfolding*. What was once buried for dating, is now dating each other … wei jy! raised for dreaming.

Anyway, let's move on …
In this world, the cave is a cathedral.
The reef, archive.
The rock, teacher.
The drip of water, a sermon.
And death is an offering to the next rhythm.
Outjie jy … we don't run here …
Life here moves slowly, like a long exhale underwater. Nothing hurries. Everything remembers.
The colours are iridescent: ultraviolet mosses, pink sands, liquid green auroras flowing through underground rivers. Every being emits one soft neon aum. The world does not shine to be seen as it glows because it's *alive*. There are no borders, no names, no nations. No "I". No "mine".
There is only *we:* we who were sand, who are seed, who will be cave. This is the present.
This is *post*.
post-time. post-death. post-human. Post everything you ever know.
This is everything you will ever need to know or will know.
Where every rock is sacred, every grain of sand remembers your name, and every drop of water is an ancient calling.
And so, you have arrived! You have arrived … (and you must, in some form), lay down softly. Let Flowstone receive you. Let the slow drip of this world write you into it.

Welcome to the aftertime.

Dream
Stew
9/7/25



11

1988

Buntu Makhedama

An army of once-human insurgence had taken over the town, and its death-threatening growl was a call to action for other *Mkhovu*. Maria clung to her baby like a purse as warm blood spattered her kaftan when the *Mkhovu* caught the man next to her. The *Mkhovu* startled her and her bundle to the ground and now she was using her one free arm to crawl backwards, watching this feral *Mkhovu* feast on its paralysed victim. "Help me," he cried in vain. The *Mkhovu* sunk its teeth deep into the neck of its prey and ripped out a chunk of flesh. Blood splashed out, coating the *Mkhovu*. Maria watched, motionless.

Next, something dragging her up to her knees. A hand. "Come on, get up!" It was Ruth's. "We'll make it to Tsolo tower. Come on." Ruth held Maria's hand tightly as they ran, ducking and hiding from the *Mkhovu.*

These creatures may drag their feet walking but they are quick on the attack. Their bodies lanky and rugged, with mottled skin from years of battling the *Limu* disease—a term derived from their resemblance to *Limu* spirits. In their faces some still recognised lost friends, family and co-workers. Some felt they could talk sense into them: they would call out their names; next thing, they were gasping and mingling with the grotesque.

Maria and Ruth managed to get a few steps closer to the only place

that repelled these creatures. They climbed the enormous stairs up the tower, behind them a nightmarish mise-en-scene of pain and death, as the *Mkhovu* feasted with single-minded determination.

Like a musical cantata that is reaching a resounding end, the victim's struggles grew weaker, fading into a chilling silence that left only the sound of slurping and tearing as the feasting of the *Mkhovu* echoed in the darkness.

Climbing up the stairs of this 190-metre long monument—rivalling the Egyptian pyramids—Maria felt her baby move erratically on her back. Elated that it was unharmed, she took it off. Looked at it. Despite its innocence, it exuded an aura of danger. She had hoped to give it a name when she could prove that it was alive—this was the opportunity. "Lethabo" would be its name. Lethabo's eyes were still tightly shut. He had developed feral teeth about the size of a wild cat, and he hissed like wild cats do. Then, he sunk them into Maria's breast, freeing itself. "Lethabo!" Maria cried, as her baby rolled down the stairs to join the *Mkhovu*.

* * *

Maria never felt like she belonged in the world. This was not a mere habit of feeling like a pariah, but it was an implicit knowledge that had been shaped by life events. At the age of two she lost both her parents who were anti-apartheid activists during a protest against the Dompas. She has no memory of her parents but she knows from Nomha, her grandmother, that she physically resembled them both. "Those hands, yes, they remind me of your father's," she would say. "And your face is as pretty as your mother's." What she knew certainly of them was their final resting place behind their two-roomed house.

At the age of thirteen, when Maria was in the ninth grade, Nomha was severely ill with *Limu*. She was bed ridden. Her body ached with puss-oozing blisters. Early every morning, after completing most of her school prep, Maria would wash her ungracefully thin body with lukewarm water, feed her mashed banana with yoghurt and dress her with a clean diaper. Nomha and Maria lived a particularly

private life. They were easily forgotten by the community, that is until there was an uproar about a suspected witch apparently making everyone but their accusers sick. Only then would they suddenly become popular.

Over time Nomha's illness became so severe that she could hardly speak and her breathing was shallow. Maria continued with her routine every morning: washing her withering body with lukewarm water, feeding her mashed banana with yoghurt and dressing her with a clean diaper.

One particularly hot summer day she realised that Nomha's hygiene was becoming worse along with her illness. She invited flies, which were expected because it was summer—but *maggots*? She could not understand why maggots festered inside Makhulu's vagina. The smell of rotting meat choked the two-roomed house, or it might have been a dead rat behind the wardrobe. She checked but there was none to be found. The smell persisted and the maggots were relentless. Strangely, the stench invited neighbours who more readily observed that Nomha was rotting and that she had long been dead. Nomha was buried beside Maria's parents.

A month after Nomha's funeral, when Maria had lost every sense for living, she married a man she hardly knew. You see, life for Maria was nothing from birth; her social life had been constant death—either of her parents or her grandmother. But she clung to the possibility of living, and so when Phuthuma asked her to marry him, she did not put much thought into it; but if it meant leaving the place that reminded her how alone in the world she was, she would take it, and so she took it. She did not know much about Phuthuma besides his being with the Nightwatchers, a militant organisation established to fight against the apartheid regime. Their original purpose changed drastically when they had to gun down the *Mkhovu*, many of whom had once been the very people they had sought to liberate.

Phuthuma kept to himself, so much that Maria would see him once in two years. Maria was the typical obedient wife who carried out her household duties and pleased her man when he was home without question. When Maria felt another heartbeat alongside her

own she told Phuthuma. He was pleased to learn that he would have a child. He started showing his wife affection. He would come home at least twice a year.

A month following the baby's birth, the Health Science Body of South Africa (HSBSA) issued a statement regarding a new strain of *Limu* that, instead of killing, transformed its victims into half-dead, flesh-eating monsters. Every broadcaster in the country read the message four times a day. She read the paper with Phuthuma. There was an article in the *Daily Dispatch* about an incident a few streets away from Maria's new home: a neighbour and friend of the deceased who reported that she had frequently called at her friend's [Zethu] home. She shared that her friend [Zethu] took care of her husband who was terminally ill from *Limu*, and how sometimes she would assist her [Zethu] with bathing him and changing his diapers as he could no longer walk. They started noticing that as they bathed him, his skin was decaying and peeling off.

When he finally died, Zethu planned for her husband's funeral. But, arriving from church one day, Zethu found his body no longer where it used to lay. "I think Zethu's husband turned into a *Mkhovu* and bit off her neck because you can see that chunks of flesh were removed from her neck and thigh," said the neighbour.

The New Holmes community also told the *Dispatch* that they did not feel safe at night as the *Mkhovu* walked the streets and sometimes broke into people's houses and someone always died when that happened.

On the ninety-sixth day after the announcement of the new *Limu* variant, the country was placed on strict lockdown. Newspaper reports followed the same script: 16 February 1988 headlines all read "The country is on lockdown after the finance minister's wife was discovered dead on the bed where her missing *Limu*-positive husband formerly lay. Evidence suggests *Mkhovu* transformation."

Soon news media stopped reporting. Fear reached every crevice of public life. No one knew who was alive and where, who needed help and of what kind. Emergency services were paralysed.

Maria's baby was lanky—a hallmark of *Limu*. Phuthuma refused to hold or call it his child.

* * *

Maria had passed out for hours after being bitten by her baby. She rested in a tent, snoozing away. And for a while now, the Professor had been attempting to make sense of erratic fossil bones that most scientists found difficult to understand. He meandered the belly of this 190-meter-tall dolomite stone which sharpened at its tip, within which a network of caverns was keeping the surviving population, Ruth, the Professor and now Maria, from the half dead.

As an expert on hominins, especially *Homo Naledi*, he had observed how the half-dead, who sought refuge in cold, dark places at night, were somehow repelled by this gigantic rock. He was intrigued by peculiar drawings on the wall. By the light of a lantern, he gently removed some of the cavities on the stone with a small brush. He studied the drawings. He could decipher the message.

"This bitch is *alive*," he muttered.

"I'm over here, Professor!" shouted Ruth, who had been working in this chilly, dark cave without a light.

"There are drawings on the wall," shouted the Professor. "I think it could be a message from the past. From the primates, I think."

"Could you shine the light my way then? I'd like to see. I can hear you, but it would be better if I could see you too."

"Humans think life as we know it now on Earth will cease to exist when Uranium runs out—look at this drawing," the passionate Professor shone the lantern closer to the wall.

He continued, "I'm telling you, this bitch is alive. She changes form and confuses any species that inhabits her. We think she is some 4.4 billion fucking years old, but this bitch is way older—she sheds parts of self like any other bitch on her period. Excuse my language. But tell you what, she is sentimental, all these *Mkhovu*, zombies running around at night, they are her subjects—they can't help it. If you look at this, it seems to be a trajectory. She will drive some of them to the cave where they will be fossilised."

Always in awe of the Professor's excitement, Ruth listened attentively. To her, this was the man to follow. Yet, he was mysterious.

She did not know if the Professor had a family or not. Perhaps he reminded her of her father.

"This is not a new phenomenon like we thought," the Professor said. "The bitch did it with *Homo Naledi*—she was too sentimental to eradicate everything, so she kept fossils as memories. Who knows what else she has kept before our knowledge of human history? The religious fanatics think this is the wrath of God, not knowing it is this crazy bitch of an Earth. If He's still there, waiting, watching, listening, may God forgive me."

"Uhm Professor, are recesses from stones always slimy?" Ruth enquired, as she felt something out of place. They were in a cave with a single lantern after all; the Professor had it to himself. He turned to observe the slimy object and realised it was a *Mkhovu*. It growled, yet it was otherwise non-responsive. It was not driven by the hunger instinct. Could it mean that this *Mkhovu* was in the process of being fossilised?

The Professor wandered as he observed this *Mkhovu*. He studied the drawings on the wall once more, seeing primitive illustrations of men fighting monsters with nothing but assegais. He sharpened the dolomite recess and pierced the *Mkhovu* and his hypothesis was proven. The dolomite rock was a potent weapon against the *Mkhovu*, achieving what ordinary ammunition could not.

"We have to find who else is still alive out there. This could be the breakthrough we've been waiting for."

* * *

The morning was warm. The jacaranda trees had blossomed. A confetti of purple flowers delicately covered the land mass. The growling creature marched aimlessly in search of the next meal. Maria had woken up from her slumber. She realised that she needed her baby regardless of the form it had taken. She also understood that she, too, could turn into a *Mkhovu* any minute now.

After learning of Maria's husband's position in the Nightwatchers, the relentless Professor knew that *they* were best suited to forge

potent armament out of the dolomite stones. They were to use their primitive assegais to survive the day until they reached the Nightwatcher base which is located in the Queenrose Superspar cellar in the town centre. Ruth? Well, she was following the Professor wherever he went. They began!

The Professor was in the vanguard, aiming for the throat, slaying one, two, three, four of these once-human creatures. Ruth was well behind, supporting him. Maria timidly followed the duo.

Something was amiss though. These once-human creatures seemed to shift in well-orchestrated movements. They organised themselves. Then stopped! The Professor, Ruth and Maria were startled by this behaviour. The air felt thick with suspense, like a knowing that something sinister was about to happen. Then came a growl that pierced their eardrums, emerging from the *Mkhovu*.

The low rumbling developing from the depths of these creatures chilled Maria's bones, and even Ruth had to step back a few centimetres from her knight in rimmed lenses. It raised the fine hairs on the back of the Professor's neck. Death was in the air.

They started to make a run for it towards the town centre, evading each of the *Mkhovu*. In the midst of the commotion, a *Mkhovu* that had been lurking in an alleyway caught Ruth by the leg; badly hurting her. Blood gushed out of her like an exposed punctured pipeline.

"Make a run for it! I'll keep them busy for a while," Ruth commanded.

"Ridiculous!" the Professor objected. "I can't leave you behind!"

The once-human creatures were closing in. Their numbers appearing to have doubled this time. The Professor attempted to lift Ruth to his shoulder. But he was not quick enough to make it to the town's centre with Ruth on his back. He tried, nonetheless. Realising that these creatures were closing in fast, Ruth pushed herself off the Professor's shoulder. She was caught once more. They feasted on her flesh, tearing her open. Her intestines dripped from each of the *Mkhovu* like spaghetti. They were preoccupied with their meal now.

Maria and the Professor watched—showing their last respect for Ruth.

12

Pula e ntle

Thandiwe Gaobepe

Before time, there was the Word. And the Word was God. It is written in soil, in stars, in stone.

The first thing Naledi noticed was the smell. Earth after rain, sharp and alive, as if the ground had been waiting all night to speak. She stood barefoot at the mouth of the Eye of Kuruman cave, toes pressed into red dust, watching the sky loosen itself. The rain came slowly, not a storm, not yet. Just a steady falling, each drop finding its place. Naledi closed her eyes and breathed in. The scent pulled something loose in her chest.

Seventeen years ago, the same smell had filled the air the morning Nana died. No thunder. No warning. Just rain soaking into the earth while the house held its silence. Naledi had stood on the verandah then, unable to step inside, as if crossing that threshold would make it real. Now, standing here again, she felt that same pause in the world. That same held breath.

They said grief changes the brain. It bends time, stretches it, makes the past feel closer than the present. Naledi had studied it, mapped it, and named it. But knowing had never stopped the ache. Some mornings still arrived heavy, as though something unfinished was waiting for her. Today was one of them.

Behind her, the cave shifted. Naledi opened her eyes. At first, she thought it was the rain playing tricks with light. But the glow

didn't fade. It deepened, spreading along the crystal-lined walls like something waking. She turned slowly. The cave was breathing. Not visibly. Not in any way she could prove. But she felt it, a low vibration, steady and contained, like a pulse beneath skin.

Naledi stepped closer. The air cooled. The scent changed, mineral, damp, ancient. Her heartbeat began to match the rhythm of the rock. Then came the sound. Low. Almost below hearing. A hum that settled in her chest rather than her ears. Naledi froze. The hum thickened, layering into something else. Not quite music. Not quite voice. Something forming. Her breath shortened.

"Hello?" she said, the word small in the widening space.

The sound shifted. Not louder. Clearer. And then, "Return."

Naledi stumbled back. Silence followed. Immediate. Complete. The rain outside continued, soft against the earth, as if nothing had happened. She stared at the cave wall, pulse racing. "No," she whispered, shaking her head. "No, that was …" A trick. Stress. Memory folding in on itself. She stepped back toward the entrance, needing air. The light dimmed. The hum disappeared. Just rock again. Just rain. She stood there for a long moment, breath uneven, trying to settle herself. Then, slowly, she turned away.

That night, she couldn't sleep. The house felt too full. Of memory. Of absence. Naledi stepped outside and sat beneath the mulberry tree, wrapping her jersey tighter around her shoulders. The ground was still damp from the afternoon rain. She opened her journal. For a while, she just stared at the page. Then she wrote:

> *What if grief is not loss, but interruption?*

The pen hovered.

> *What if the dead continue, and we are the ones who lose the ability to hear them?*

Naledi stopped writing. The thought unsettled her. It didn't feel like a theory. It felt like a memory, half-formed. A soft movement caught her eye. A butterfly settled on Nana's rose bush. Its wings

carried deep blues and violets that shifted in the low light, almost like something alive within them. It opened and closed them slowly. Steady. Measured. Naledi's breath fell into rhythm with it before she realised. In. Out. In. Out. The world quieted. Then, faintly—that same hum.

Naledi stiffened. It wasn't coming from the cave. It was everywhere. Or nowhere. She closed her eyes. Listened. And this time, she didn't run.

The next morning, she left for Taung. She didn't tell anyone. Didn't explain it to herself either. She just knew she had to go. The road felt longer than she remembered. Dust lifted behind her car in soft clouds, settling slowly back into the land. The sky stretched wide and pale. She drove with the window open. No music. No voice. Just wind.

Taung gradually emerged. Low buildings. Faded signs. A place that carried time differently. Naledi parked near the ridge and stepped out. The air was dry, almost brittle. She stood for a moment, adjusting, listening. Nothing. No hum. No pull. She exhaled, half relieved, half unsettled. "See?" she muttered. "You're fine." But her feet didn't turn back to the car. They moved forward.

The rock face wasn't marked. No sign. She found it anyway. Something in the shape of the land drew her in, guided her without explanation. The ridge curved inward, forming a shallow hollow. The stone there was darker. Smoother. Older. Naledi stepped closer. At first, she didn't see it. Then the outline shifted. A small face pressed into the rock. Subtle. Watching. Her breath slowed. "That's … it?" No response. Just heat. Stillness. She reached out, paused, then pressed her fingers against the stone.

It happened too fast to comprehend. A sharp current ran through her hand, up her arm, settling hard in her chest. Naledi gasped and stumbled back. The world tilted. Not spinning. Not breaking. Just slipping. For a fraction of a second, something opened. A sound. High. Bright. A child's laughter. Then "… shwening …". The word didn't finish. It dissolved before she could hold it. Naledi blinked. The air snapped back into place. Heat. Dust. Silence. She stared at the rock, pulse racing. "No," she said, shaking her head. "No, that's not …" Her voice faltered. Because it was. She could still feel it. Not

in her ears. In her body. Like something had passed through and left a trace.

Naledi stepped forward again, slower this time. The fossil was just stone. Still. Lifeless. She didn't touch it again. She left Taung without looking back. The drive home felt shorter. Or maybe she just didn't notice the distance. Her mind kept returning to that moment. Not the shock. The sound. Laughter. And that unfinished word. By the time Kuruman came into view, the sky had started to darken. Naledi tightened her grip on the steering wheel. She already knew where she was going. She tried not to go.

Naledi went home first. Washed her hands. Changed her clothes. Made tea she didn't drink. Normal things. Small things. Things that belonged to a version of the day where nothing had shifted. But the silence in the house pressed in. Not empty. Waiting. Naledi set the cup down. "Fine," she said softly.

The walk to the cave felt different that evening. Closer. As if the distance had shortened without permission. The air carried that same faint charge. Not overwhelming. Just present. Naledi slowed as the cave came into view. And stopped. Someone was standing there. He didn't move when he saw her. Didn't step forward. Didn't speak. He simply stood at the entrance, as if he had always been part of it. Naledi's first instinct was to turn around. She didn't. Instead, she stepped closer.

"Can I help you?"

The man tilted his head slightly. "You heard it." Not a question.

Naledi frowned. "I'm sorry?"

"You went to Taung."

Her chest tightened. "How do you know that?"

He didn't answer. Just watched her.

"Who are you?"

"I am Tufa."

"And what do you want?"

"It has begun."

"I don't know what you're talking about."

"Yes, you do."

Naledi let out a short breath. "No. I don't."

Silence stretched.

"You heard it," he repeated. Not pushing. Just stating.

Naledi hesitated. "… I heard something."

Tufa nodded once. Then turned and walked into the cave. Naledi stared after him. "That's it? You're not even going to explain?" No answer. Just darkness. Her heart picked up. This was a bad idea. She followed anyway.

Inside, the temperature dropped. Cool air wrapped around her. "Where are we going?" she asked.

"To listen," Tufa said.

"To what?"

"You will hear."

They moved in deeper than she had gone before, into a wider chamber where the walls were smooth and layered by time. "Here," Tufa said.

"I don't see anything."

"You are not looking."

Naledi exhaled. "Then what am I supposed to do?"

"Sit." She lowered herself to the ground.

"Close your eyes."

"I'd rather not."

"Then you will keep seeing what is not there."

A beat. Naledi closed her eyes. At first, there was nothing. Just her breathing. Then her thoughts rushed in. She let them pass. Slowly. Until something shifted. It started with water. A soft, steady drip. She focused on it. The sound deepened. Carried something beneath it. Then another sound. Movement. Feet through grass. Distant. And then, a voice. Soft. Familiar. Pula e ntle.

Naledi's breath broke. Her eyes flew open. She hadn't realised she was crying until she tasted it.

"I heard her."

Tufa nodded. "She is here."

Naledi shook her head. "That's not possible."

"You heard her."

"It means you are listening."

Naledi looked away. "Why me?"

“It is not given. It is remembered.”

“I don’t understand.”

“You will.”

They left before sunrise. The land stretched wide as they walked. Bare earth. Low trees. Wind brushing through dry grass. She felt it now. Faint. But present. Something beneath her feet. Alive. Gwadu rose ahead without warning. Large. Quiet. Watching.

“This place …” she said.

“It listens,” Tufa replied.

“That’s not comforting.”

“It is not meant to be.”

A sharp sound cut through the stillness. Naledi turned. Movement flickered at the edge of the trees. A baboon landed in the clearing, its eyes fixed on her. Naledi froze. The animal tilted its head. Then, it shifted. Not violently. Fluidly. Fur loosening into skin. Limbs lengthening. A woman stood where it had been.

“Well,” she said lightly, brushing dust from her hands. “Took you long enough.”

Naledi stared. “Tufa?”

“Dimakatso,” he said.

“Yes,” she replied. “I know who I am.” Her gaze moved to Naledi. Sharp. Curious.

“So this is her?”

“This is not normal,” Naledi said.

Dimakatso laughed softly. “No. It isn’t.” She stepped closer. Circled once. “You’re loud.”

“I’m not even speaking.”

“Exactly.”

A low rumble moved through the ground. Naledi stiffened. The soil shifted. Cracked.

“What is that?”

“Don’t fight it,” Dimakatso said.

The ground split slightly. Movement beneath. Layers. Naledi’s breath caught. For a moment, she saw people. Running. Singing. Falling. Then it was gone. The earth sealed. Silence returned. Naledi dropped to her knees, hands shaking.

"That felt like …"

"Too much?" Dimakatso said.

Naledi nodded.

"What's happening to me?"

"You're starting to hear what never stopped speaking," Dimakatso said.

Fear sat in Naledi's chest. But something else sat beside it. Not courage. Not yet. But willingness. She pushed herself to her feet.

"Then teach me."

Dimakatso smiled. "Careful. That's not a small request."

Naledi met her gaze. "I know." A pause. Then Dimakatso nodded. "Good."

The first lesson was not what Naledi had expected. There were no instructions. No rituals. No clear beginning. Dimakatso simply turned and walked. Naledi hesitated, then followed. Tufa stayed behind. She felt it before she noticed it, his stillness. Like a weight settling into the ground. Like something choosing not to move. Naledi glanced back. He was watching her. Not stopping her. Not guiding. Just allowing. That unsettled her more than anything.

Dimakatso led her along a narrow path that cut between stone and scrub. The mountain pressed close here, the air cooler, thinner.

"Where are we going?" Naledi asked.

Dimakatso didn't slow. "Not yet."

Naledi frowned. "I just want to understand what I'm doing."

"No," Dimakatso paused briefly. "You want to control it."

Naledi opened her mouth, then closed it. That landed too close to home. They walked in silence after that. The ground shifted underfoot, from dry dust to compact stone. The sound of their steps changed with it, sharper now, more defined. Naledi noticed it. Each step had a tone. Not loud. Not obvious. But distinct.

She slowed slightly. Dimakatso glanced back. "You hear it."

Naledi nodded, unsure.

"Good," Dimakatso said. "Then stop thinking about it."

They reached a narrow opening in the rock, barely visible unless you were looking for it. Dimakatso stepped inside without hesitation. Naledi followed. The space within was smaller than the

cave at Kuruman. Lower. Tighter. The walls curved inward, holding sound differently.

"Stand there," Dimakatso said, gesturing to the centre. Naledi complied.

"What now?"

"Now you listen."

Naledi exhaled. "That's all you keep saying."

"And you keep not doing it."

"I am listening."

Dimakatso shook her head. "You're waiting."

"For what?" Naledi asked.

"For something to happen to you."

Naledi frowned. Dimakatso's gaze sharpened. "Nothing is happening to you. You are happening inside of it."

The words settled heavily. Naledi didn't respond. She closed her eyes. At first, nothing changed. Her breathing. The faint echo of movement. The distant wind outside. Then her thoughts started again. Too loud. Too fast. She tried to quiet them. That made it worse.

"You're forcing it," Dimakatso said.

Naledi let out a breath. "Then what am I supposed to do?"

"Fall back."

Naledi opened her eyes. "What does that even mean?"

Dimakatso pushed off the wall and stepped closer. "It means stop holding yourself at the front. You're standing between yourself and what you're trying to hear."

Naledi stared at her. "I don't know how to do that."

Dimakatso shrugged slightly. "Then you learn."

Naledi closed her eyes again. This time, she didn't try to reach for anything. She let the thoughts come. Let them pass. Didn't follow them. Didn't resist them. Slowly, something shifted. Not outside. Inside. It felt like stepping back from a doorway she hadn't realised she was blocking.

The sounds returned. But different now. Closer. Layered. The scrape of stone. A breath that wasn't hers. Naledi's brow furrowed. Then, a word. Not spoken. Not heard. Known. She inhaled sharply.

Her eyes opened.

"What was that?" she asked.

Dimakatso watched her carefully. "What did you hear?"

Naledi hesitated. "It wasn't a sound," she said slowly. "It was … meaning."

Dimakatso smiled faintly, approvingly. "Yes."

Naledi's pulse quickened. "So what does that mean?"

"It means you've stopped listening with your ears."

They returned to the clearing at dusk. The air had shifted again, heavier now, like something gathering. Tufa was where they had left him. Unmoved.

Naledi approached slowly. "Were you here this whole time?"

Tufa nodded once. "Why?"

He looked at her as if the answer were obvious: "To hold the silence."

Naledi didn't know what that meant. Before she could ask, the ground stirred again. Not as sharply as before. But deeper. More sustained. Naledi tensed. Dimakatso stepped beside her. "This time, don't step back."

Naledi's instinct flared. "That doesn't feel safe."

"It isn't," Dimakatso said calmly. "Safety isn't what you're learning."

The ground shifted. Cracked. Opened wider than before. Naledi forced herself to stay. Her hands trembled. The movement beneath the earth grew clearer. Not just flashes now. Patterns. Moments folding over each other.

"Don't try to see everything," Dimakatso said. "Choose."

"Choose what?"

"What you stay with."

Naledi focused. The rushing images threatened to pull her under. She anchored herself. One moment. A woman grinding grain. The rhythm steady. Grounded. Naledi held onto it. The noise around it softened. The chaos eased. Her breathing slowed.

"There," Dimakatso said quietly. "That's how you don't disappear."

The ground sealed. Naledi exhaled, legs weak.

“That felt … different,” she said.

“You stayed,” Tufa replied.

Naledi looked at him. “It didn’t feel like staying. It felt like not drowning.”

Tufa inclined his head. “For now, that is the same thing.”

13

Reading Time in Stone: Deep-Time Evidence for Africa's Decisions

Suwilanji Sinyangwe

Across the continent, public money is being asked to do hard work in a harsher climate: store water through longer dry spells, maintain soils on hillsides that erode faster, erect clinics and schools on ground that will not give way. The costliest mistakes do not begin in parliament. They begin in the baseline. Too often decisions are grounded on short, noisy records of twenty or thirty years at most—not long enough to know a landscape. Scratch that. A better record exists, in walls of calcite that grew drop by drop in a network of caves northwest of Johannesburg, and it is decipherable.

The science that reads those walls is not a curiosity. It is decision infrastructure. In the Cradle of Humankind, a Unesco World Heritage landscape, geologists reconstruct wet and dry phases, changes in groundwater, and the rate at which landscapes shed their layers. Our public-minded guide into this work is Dr Tebogo Makhubela, a geologist who specializes in dating cave minerals and surface histories. A senior academic based in Johannesburg, a recognised science communicator, he works at the seam where careful fieldwork, rigorous laboratory methods and clear storytelling meet.

Before the methods, the place. The surface is grassland and

koppies. Beneath it lies dolomite, a carbonate rock eaten slowly by water. Rain picks up carbon dioxide in the soil, becomes mildly acidic, and dissolves the rock along fractures. Think of it the way sugar dissolves in water: the dolomite does not vanish, it becomes a solution, carrying calcium and magnesium ions as the water moves deeper. Over thousands of years the cracks widen into conduits and chambers. Inside these rooms, each drop that reaches the air loses a little of its carbon dioxide and leaves behind a thin skin of calcite, the same mineral that breeds limescale in a kettle. Layer upon layer, those skins build into flowstone (curtains of calcite coating the walls and floor), stalactites (stone icicles hanging from the roof) and stalagmites (pillars that rise from the floor). A key note for the layman: each layer records the conditions that made it. A thick layer means water dripped freely from above, which means rainfall was generous. A thin layer means water slowed. A gap means it stopped. These are not decorative stones; they are a climate record for the ages.

One site shows the argument in full. Researchers catalogue it as UW105; among collaborators it goes by Demat, meaning "the cave of surprises". Lime mining in the nineteenth and twentieth centuries stripped many of its rooms: the icicles and pillars were burned into cement for an emerging Johannesburg, and the miners left a sealed floor behind them. Yet a single wall remains where the original rock-and-water record is intact. Close up, fine bands thicken in generous years and narrow in lean ones. The wall is an archive and, crucially, a timekeeper.

The first clock is inside calcite. When a fresh layer forms, a trace of uranium becomes part of the crystal. Uranium changes into thorium at a predictable rate across a scale of hundreds of thousands of years. Because thorium does not dissolve in the water that builds these layers, each new layer begins with almost none of it. Over time, thorium accumulates inside the sealed crystal. Measuring how much thorium has developed relative to the uranium remaining reveals when that layer formed. The method works be-

cause the crystal starts clean: there is no inherited thorium to confuse the reading, only thorium produced since the layer was laid down. What this yields for a planner is a dated climate record. A band that formed during a reliably wet period fourteen thousand years ago and a band that thinned during a prolonged dry stretch eight thousand years later are not merely interesting: together they tell a water engineer how bad the droughts in this watershed have been, across a timescale no rain gauge ever recorded. Reputable labs verify this by dating bands from bottom to top to check that ages step forward in order, running duplicates, and looking for chemical signs of disturbance. Certainty is earned through methodical doubt.

A second clock sits in daylight. High-energy particles from space, cosmic rays, strike exposed rock and create rare atoms inside the mineral grains at a rate that scientists have measured carefully. Those atoms accumulate while a boulder or a soil grain sits at the surface. Once buried, production stops and the accumulated atoms slowly decay. Counting what remains tells us how long that material was exposed to the sky, and from that, how fast the slope above it has been shedding rock and soil. For a land manager, this is directly actionable: a hillside with very low concentrations of these atoms has been losing material quickly, which means its soils are thin and its cover needs urgent attention. A hillside with high concentrations has been stable for a long time. That distinction changes where effort goes, whether in terracing, grazing controls, or tree planting, without relying on visual guesswork.

Together, these two clocks produce something a short instrumental record cannot: a map of what this specific landscape has already survived and lost. The cave layers show wet periods when dripstone grew quickly and dry phases when growth slowed or stopped, stretching back hundreds of thousands of years. The surface record shows which slopes have clung to their layers for centuries and which have shed material in pulses after heavy rains.

A planning authority working only from recent gauges sees a slice. Working from both clocks exposes a range: the realistic worst-case drought, the realistic erosion load, the realistic recovery time. That range is what sizing decisions, allocation rules and restoration priorities should rest on.

If the clocks are the argument's bones, Demat provides its muscle. When researchers broke through the mine's cemented floor, they found mud-rich deposits and more blocks below, material that could be dated and tied to wetter and drier phases recorded in the intact wall above. A damaged chamber still holds a legible sequence: muddy intervals that record sediment washing through during wet, energetic periods, capped by flowstone laid down in calmer, steadier dripping. These alternating layers connect the fossils and sediments inside the cave to the same climate beats that shaped the watershed above it. What looked like an industrial ruin turns out to be a reading room.

"... systems wander within limits and occasionally settle into new patterns after a large shock"

The discipline required in dating is worth replicating in public life. Samples are logged and tracked; methods are documented in plain language; uncertainties are calculated and reported rather than smoothed away. The standard is not to be right once but to remain right when another team revisits the work. In a region where infrastructure decisions are often asked to carry political weight, the ethic of showing one's work and inviting scrutiny turns technical disagreement into an honest conversation rather than a contest over authority. Public planning needs exactly this quality: not the appearance of certainty, but a transparent account of what is known and what is not.

Scale is its own form of instruction. A band a few millimetres thick may store a century of changing drip rates. A boulder on a ridge may carry tens of

thousands of years of exposure history. When these threads are stitched together across a watershed, planning is pulled past the five-year budget cycle without losing practicality. Deep time becomes useful time, not because it predicts the future but because it establishes the realistic envelope within which the future will operate.

Critics sometimes argue that records this old cannot guide near-term planning. But the clocks do not predict next month's rain; they map what this landscape has already endured. They show which swings are possible here, how quickly thresholds have been crossed in the past, and how long recovery has taken. That context makes seasonal forecasts more actionable, not less. Knowing that a three-decade dry phase is within the range of this watershed's history gives an engineer a principled reason to size a dam for that duration rather than for the twenty-year average.

Two assumptions are worth setting aside. The first is that a landscape, left alone, returns to a single, stable state. The record in stone says otherwise: systems wander within limits and occasionally settle into new patterns after a large shock. The second is that nature and development sit in permanent opposition. In dolomite country, careful development is often protection. Revegetating an eroding slope keeps the topsoil that feeds households and protects the water moving through the rock below. Routing a road around a known cavity in the dolomite protects both the road budget and the cave record. These interests are usually aligned, not competing.

"[Caves] are part of heritage and living ecology"

Caves are not only data sources. They are part of heritage and living ecology. Taking only what research requires, recording what was taken and why, and reporting back to communities does more than satisfy permit conditions. It makes the science legible to the people who live

alongside it, and legible science is the kind that gets used.

The biggest practical constraint on applying this evidence is not geology but capacity. Too many African samples still cross oceans for analysis, returning as numbers detached from the places they describe. Building regional capacity, in labs, archives, field skills and career paths, keeps evidence close to the decisions it should inform. The model is a network: shared methods, shared quality control, open datasets, and career paths that seat geologists beside hydrologists and soil scientists beside policy analysts. That is not an expensive ideal; it is the difference between evidence that circulates and evidence that gathers dust.

Limitations deserve plain statement. Cave layers can be disturbed by later water flow; exposure histories can tangle if rocks were buried and re-exposed. That is why results carry uncertainty ranges and are cross-checked with independent methods. In policy the parallel is straightforward: design for a range of outcomes rather than a single number. Stage water restrictions so they tighten progressively as conditions worsen. Size drainage infrastructure for plausible extremes rather than historical averages. Build in review points so that choices tighten or relax as evidence accumulates.

“He does not ask audiences to trust a person; he invites them to follow a process”

A word about the scientist whose work anchors this argument. Dr Tebogo Makhubela is part of a generation of African earth scientists turning caves into public knowledge. His presentations move between the technical and the practical without losing either. His fieldwork shows how to build a narrative from field notes, photographs and measured results, and then hold it up to scrutiny rather than shield it from challenge. He does not ask audiences to trust a person; he invites them to follow a process, from cave wall to sample to laboratory result to interpretation. That is scientific authority.

Africa's margin for error is shrinking. The decisions that remain are financially large and politically difficult. Those choices are safest when they rest on evidence that is explicit, auditable and shared. The underground and surface clocks supply exactly that. They expand the question from what happened last year to what this place has endured across centuries, and that shift is what turns a hunch into a workable choice.

In a time when the future feels compressed, reading time in stone slows the conversation just enough for judgement to keep pace with what the earth is actually telling us. **FS04**

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** This contribution is an op-ed. The views expressed herein are those of the author and do not necessarily represent the views of FicSci 04, its editors or its publisher.*

14

The Cave of Unknowing

Wamuwi Mbao

The week before the retreat begins, I'm trying to read up about geology. Sixteen of us will be arriving at Mont Fleur, a conference centre in the Blaauwklippen Valley that feels like it has seen many conferences. A bit of avoidance-browsing confirms: a group of scenario planners headed by a dodgy frontman for Shell International, held a series of meetings at there, to envision the future of South Africa. It is a venue that lends itself to strategic reflections, to breakaways and other things from the corporate playbook. How does our work fit with that history?

On the day the retreat begins, I fill a bag with socks, warm things, three or four pens. I've decided to try writing my notes by hand. I drive up the steep bumpy track that carries on an unfeasibly long time. The road is presumably kept this way to stop hasty wine-seekers from covering the grapes with dust—the sort of reason usually given for not improving the glorified goat-tracks that lead to interesting places. As the car climbs, you have time to look out at pretty chateaux and genteel farmhouses. There are never any people. The road dips under gothic trees and bobbles over a narrow stone bridge, and then you arrive, dramatically, at the threshold of Mont Fleur. There is enough time, before the writers arrive, to feel an impostor. Does one ever feel smart enough around a scientist, especially an award-winning one?

Our chosen scientist, then. He comes to us fresh from being decorated with the prestigious National Geographic Wayfinder Award. I remember that National Geographic is possibly the earliest instance I can recall being confronted with scientific endeavour. How will Dr Makhubela impart to us hapless, non-science types, his deep knowledge of fossils, of stone formations and of geological time? The question generates some anxiety in me: there is such a thing as not having the language for making sense of knowledge that is not your own. With each FicSci event, the engagement is both with the specific subject presented by the scientist, and with the task of writing towards science itself: it is an exercise in communicating thought.

Anxiety is always the mood on the first day. In the welcome hall, I chat with Fumani, the seeker, our ever-resourceful fixer, about the minutiae that always occupy us in the last few hours before everyone descends on Mont Fleur. Has everyone boarded their flights? Yes. Will the shuttle know to wait for this writer or that? Yes. I do this mostly to calm my nerves. The machinery runs smoothly. I've been assigned a cozy little chalet, and the temptation to lock oneself away for the duration of the event takes some resisting. As the writers arrive, their excitement, their curiosity and their nervousness remind me that we are, in fact, doing something unconventional.

The overarching goal of all FicSci installments is experimenting with how imagination can be used to turn inhospitably large scientific facts into ideas we can work with at a human scale. We are here, more specifically, to engage what is human about the geological. As I understand it, there is some sense in which geology intertwines with how we understand ourselves as historical beings, something to do with the study of the planet's changes over time, and how there are traces left behind of distant forms of living and dying. Nevertheless, there is something dauntingly immense about the numbers involved. Every edition of FicSci so far has dealt in extremes of body or distance or temperature. This year, it is our ability to comprehend the scale of our earthly history that is being tested. Time, as relayed by Dr Makhubela, is capacious and abyssal, and I feel that by the end of our four days together, we will know

a little about what it might mean to inhabit the geological gaze. Perhaps the closest we'll ever come to a god's-eye view.

Because the cohort of creatives who have arrived at Mont Fleur are all talented wordsmiths and story-makers, they each come accompanied by their work with words. They are writers of different and varied kinds, used to expressing themselves in different languages and registers. The talk over dinner reverberates with what we have absorbed throughout the day: the Cradle of Humankind, the places—16 in all—where fossils were unearthed by human activity. Some of the writers are confident in their ability to respond to what they have heard. Others press our scientist for more information. The structuring conditions of everyday life are such that few of them have had the opportunity to engage with a scientist at close quarters, and so the opportunity is seized with gusto.

At one point, Dr Makhubela is talking about uranium-based dating, which sounds frightening, but soon becomes a pathway to understanding the work of scientific interpretation. Some of what he is saying glances off concepts I'm vaguely familiar with, while at other moments understanding surfaces only briefly. Other elements leave me utterly clueless. Over lunch, we try to puzzle out what the different elements might mean. Some of the writers are happy with what they have captured. Others want to sit with their confusion a little longer. Some are already beginning to formulate what their responses will be. Others, like me, have only a hazy idea of what form our writing will take.

What I notice is that the mind finds it difficult to "stay with the science." The urge to extemporize is difficult to avoid. Throughout the day, I find that as I listen, I stray into questions of human/material relation, and thereby find ground where I am more comfortable. That there is a kind of creative possibility offered up by the geological knowledge being proffered to us is undoubted. The problem is that occupying the space of creative possibility feels unstructured and nebulous. And why is that a problem, exactly? It's a question that follows me around for the four days we are together at Mont Fleur.

Reflecting on my notes later, I come to the conclusion that because the scientific knowledge we are listening to in Dr Makhubela's sessions feels so rigorous and so dauntingly precise, my own thoughts, as I look at them on the page, can only ever feel unstructured and incoherent. But perhaps this is the wrong way to look at things. What I am certain of, as we listen and plot our contributions, is just how much uncertainty there actually is, where knowledge is concerned: for all that we do know about how caves formed and what people were around, there seems to be a sizeable portion of the past that is ultimately unknowable by us. What is beyond our comprehension, individually or collectively, often feels unhelpfully infinite.

* * *

Are the arts more hospitable to the unknown? At the start of our workshop, I might have readily agreed, reinforcing the old binary. As must be obvious by now, I'm not so sure that the binary holds water. Being confronted with the chasm of what I don't understand seems especially apt given that we're discussing subterranean caves. It feels more truthful not to try and weave it all into some sort of neat narrative. But will it be readable?

15

Outroduction: Sedimenting FicSci

Mehita Iqani and Wamuwi Mbao

In 2022, we met for coffee and conceptualised FicSci to explore experimentally how creative writing could be both mobilised and enjoyed as a crucial form of communication in contemporary culture, for the SARChI in Science Communication. At the time, we did not have a fixed idea of how the workshops would be structured. We chose to book Mont Fleur for three days as it seemed a sensible amount of time in which to expect writers to produce an experimental piece, and we matched that with a request to our invited scientist to prepare three presentations for the writers we'd assemble. We knew that we would have the budget to accommodate 10 to 12 writers, including their travel from around the country, so we settled on that as a good number. We were certain that we would require writers to produce *something* out of their attendance, in real time and on site, but other than that we made no demands nor did we entertain other expectations, our faith firm in the creative process.

This anthology marks the fourth iteration of our creative-writing-meets-science encounter, the fourth workshop, the fourth scientist, making it an opportune moment to reflect on what FicSci is becoming, and what it might yet become. We plan two more FicSci workshops as part of this SARChI-funded series. From the bedrock that has been layered down in this volume, the three preceding

it, and the two to come, we see our ongoing exploratory work in this domain as leading to an opportunity for creative science communication to be further embedded as praxis and point to ways that science and creativity can continue to interface productively. FicSci is not the only way that science and creative communication interrelate. Creative writing can be scientific; science requires creativity and risk. The FicSci contribution to knowledge production in the science-creative writing matrix is still emerging, and is not yet nameable (should it ever be). As Wamuwi explored in his contribution to this collection, there is an inherent irreconcilability between creative writing and science. But this tension is intriguing and fascinating enough for us to keep returning to it.

Looking back on the FicSci journey so far as an accretive process, like sedimentation, we observe the first layer, its format: 10 to 12 writers (including ourselves), one scientist, three days, three provocations and a requirement to write. Then there is the place, Mont Fleur. Our chosen location has become a kind of character in the FicSci story, too, though one to which we have not yet given our full attention: the Blaauwklippen Valley, and its moody winter weather and formidable surrounding mountains making sunrise later and sunset earlier; the horse-shoe arrangements of rooms cocooning each group into an even more intimate sense of temporary isolation; the ever-replenishing fires that ward off the chilly nights and invite community and conversation; the hearty home-style meals, a similar menu offered each year on rotation, the same delicious cakes for tea breaks; the kind faces that welcome us as we return for another gathering. Although the invited writers each year are different and encounter the venue and its abundant yet unpretentious service with awe and joy each time, we two are the same, returning again and again, such that Mont Fleur has started to feel a little like a holiday home, and we the annual returnees. All these repetitions have in a way solidified FicSci into something tangible: an idea reinforced by repetitive action.

Although our formats and framings repeat, each year also brings something new, specifically in the contribution of the invited scientist, and the participation of our writers. Each scientist arrives

with their own passion and expertise, sharing their questions, methods and findings with unparalleled originality. In 2025 our invited scientist, Dr Tebogo Makhubela was a delight: his presentations positively fizzed with enthusiasm and optimism. Never had the questions of rock formation, fossils, and cave exploration ever seemed so thrilling, never had a chosen career in science seemed more fitting to a brilliant mind, or inspiring to those listening to it. But every year, the scientist makes us feel that way, so even though Dr Makhubela's work was a phenomenal inspiration to the writers assembled (as their creative outputs show), there is also something unique to our format that creates this special feeling about the science and scientist: for three days one scientist has the leisure and pleasure of sharing their work in detail with a small and interested group of creative minds, and they in turn get the rare opportunity to think in the company of a qualified and passionate expert about a specific domain of scientific enquiry. This recipe brings forth different outcomes every time, as each writer finds a unique spark of enquiry that they can chase with words and ideas until they have something new to say in offering to the world of letters.

And each year, a different group of writers: FicSci 04 has taught us—or brought into relief knowledge we already had—that the creatives we bring together always arrive as fully formed writers. They bring their particular interests, genre affinities, existential questions, and style idiosyncrasies with them. In their encounters with the science, the experiment lies in how they regard the new information they are offered from their own embedded epistemological presence. More than ever, FicSci 04 shows that creative writers are not blank slates that science can write onto. Instead, *they bring their writing to the science*. While the science speaks for itself, so too does the writing.

Biographies

Invited Scientist

Dr Tebogo Makhubela, PhD, is a South African academic based at the University of Johannesburg and research professional with a PhD in geology (geochemistry and geochronology), with several years of experience studying the caves of the Cradle of Humankind Unesco World Heritage Site. He currently works with National Geographic's Rising Star program alongside Lee Berger and Keneiloe Molopyane. He has completed five research visits between 2014 and 2023 at the Helmholtz Centre Potsdam GFZ German Research Centre for Geoscience to expand his knowledge in cosmogenic nuclide techniques and secondary ion mass spectrometry (SIMS). Makhubela was named a National Geographic Explorer in June 2025.

Invited writers

Bonolo Llale, Bonolo Kamogelo Desiree Llale in full, is a bold and creative 20-year-old media student who's not afraid to tell real stories. Whether behind the mic or camera, she brings ideas to life through film, documentaries, and a raw, unfiltered podcast *Talk in Talk Out*. Since 2023, she has been building a name in the media space by writing, producing, directing, and hosting content that's honest,

engaging, and deeply human. Storytelling is power and she's just getting started.

Buntu Makhedama is an aspiring writer who enjoys horror stories, a genre he is passionate about and which he explores from his understanding of the Bantu culture and cosmology. He is inspired by Lauren Beukes and Stephen King.

Cheri Hugo is a South African design educator, researcher, artist and storyteller whose work bridges feminist pedagogy, design education and creative communication. Her research and writing explores decolonial and indigenous methodologies, visual storytelling, hydrofeminism and the lived experiences of womxn of colour in institutions. Through creative way making, drawing and autoethnography, she transforms complex concepts and social ideas into stories that invite communities to imagine new relationships with Earth, memory, oceans and deep time. Her work has been published in academic books and presented through international conferences, exhibitions and collaborative research projects across South Africa and abroad.

Emma Paulet started out in life by being born. She lives in Pretoria, where she has worked as a lecturer, technical writer, wildlife re-habilitator and editor. Her writing often reflects her interest in ambiguity, the persistence of nature despite humanity's best efforts, and overlooked everyday moments. She has co-authored academic work, published poems and short stories, exhibited art, and written a play called *The Coffin* that recently received new life in translation.

Engela Duvenage is an award winning South African science journalist with more than 20 years' experience, and works for the likes of *Nature Africa*, the Africa-focused website of Nature.com. She is also the author of the children's books *Inventors, bright minds and other science heroes of South Africa* (Penguin) and *Uitvinders, planmakers en ander slimkoppe van Suid-Afrika*.

Gaireyah Fredericks has self-published 13 collections, of which Mientjies and Kaaps is Hollands were nominated for the Eugené Marais literary prize. She received the Neville Alexander Prestige Prize; Promotion of Kaaps Honorary Award from Wellington Station festival; an Honorary Certificate from the McGregor Poetry Festival Committee who planted an indigenous Ceder tree in her name. She received the Hugh Hodge Poetry in McGregor Acclaim in 2023 for her steadfast mentorship of youth in appreciating, writing and reading poetry at festivals. She won the Best Screenplay Award for 'Hanne innie lig, voete oppie grond' and 2nd place in the AVBOB Poetry Project nationwide. She has culturally advised and wrote for the Suidooster soap. Fredericks completed the Jakes Gerwel residency while working on her debut hybrid novel, *een voet innie kabr*, published by Kwela in 2024. She completed a BA Honors in Afrikaans at the University of Western Cape (UWC), graduated from Rhodes University with a Masters of Arts in creative writing. She worked with UWC's Centre for Multilingualism and Diversity Research (CMDR) on the Cape bilingual learning materials project. She translated an old Latin poem, 'Landman and Exile,' translated into English by Richard Whitaker at UCT for the anthology, *The Land*, compiled by Grant Parker, Associate Professor at Standford University. She's translated Russell Kaschula's Knife-edge/Vlymskêp into Kaaps as part of the Siyagruva youth collection; the Podcast Mourning the dead in Kaaps, which focuses on the Prestwich Street Burial Ground. She was awarded the the Eugene Marais literary prize, as well as the UJ-debut prize for her debut publication, *een voet innie kabr,* and reeled in the Diana Ferrus literary prize too.

Joy Persis Lupiya is a filmmaker and storyteller based in Johannesburg, South Africa, with a passion for science fiction and imaginative world-building. Her journey in film and television has taken her through a wide range of roles—screenwriting, producing, acting and post-production—which has given her a well-rounded perspective on storytelling and collaboration. She has worked on feature films, series, music videos, and corporate projects, serving

as everything from production coordinator and scriptwriter to continuity supervisor and lead actor. Each project has deepened her appreciation for creative teamwork and the magic that happens when ideas come to life on screen. Her fascination with sci-fi is rooted in years of reading, watching anime, and exploring Asian cinema. She is drawn to stories that explore technology, society, and the human condition in unexpected ways.

Suwilanji Sinyangwe is a pan-African policy analyst, writer, and creative based in Pretoria, South Africa. With over eight years of experience in agricultural policy, climate change, and biodiversity governance, he currently serves as a Programmes Officer at the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN), where he engages with cutting-edge research and translates it into actionable policies across Africa. He is also a Charles R. Wall Young African Policy Fellow under the African Wildlife Foundation, and an alumnus of the Ban Ki-moon Centre's Youth AgriChampions Program. Suwilanji holds a BA in Public Administration and is currently pursuing an MBA in Public Administration with the University of Cumbria. His work exists at the intersection of science, policy, and storytelling—an intersection he explores through writing essays, speeches, poetry, and policy briefs. He is particularly passionate about fusing narrative with evidence, exploring how literary expression can illuminate scientific complexity, especially in topics such as agroecology, climate science, indigenous knowledge, and planetary boundaries.

Tayla Paige is is a Cape Town-based poet whose work explores the intersections of human existence, ecology, and the often-overlooked lives of small creatures and so-called "lowly" critters. Born in the gold-mining town of Benoni, she later moved to Cape Town, where she completed her studies in English Language and Literature and Media Studies at the University of Cape Town. Her poetry has appeared in *New Contrast*, *New Coin*, *Stanzas Poetry Magazine*, the *AVBOB Poetry Project*, and *Isele Magazine*. Her work has

also formed part of a collaborative exhibition with Climate Lounge in partnership with DearTomorrow. In addition to her literary practice, Tayla is co-founder of *MAKE MUCK ZINE*, an independent print publication dedicated to celebrating experimentation, imperfection and the generative messiness of the creative process. Through both her writing and editorial work, she is interested in fostering deeper attention to the more-than-human world and to the overlooked narratives that shape contemporary life.

Terry-Ann Adams is a remarkable 30-something genderqueer, disabled author from Johannesburg who's taking the South African literary world by storm! Terry-Ann (TheyShe) burst onto the scene in 2020 with their debut novel *Those Who Live In Cages*, which was longlisted for both the HSS and Sunday Times ZA Literary Awards. Their 2022 short story collection *White Chalk* earned them the HSS Award for Best Fiction Short Stories and the South African Literary Awards Nadine Gordimer Short Story Award in 2023. Recognised in the *Mail & Guardian* 200 Young South Africans in Arts and Entertainment (2023), Terry-Ann is currently pursuing an MA in Creative Writing at the University of the Witwatersrand, supported by the prestigious 2024 Chris Van Bursary from Pan Macmillan. They served as a judge in the fiction category at the 2025 HSS Awards. Terry-Ann's work explores intersectional identity in post-Apartheid South Africa.

Thandiwe Gaobepe is an African storyteller, writer, producer and story editor whose work explores memory, identity, faith, belonging and the enduring relationship between people and place. She began her creative journey in front of the camera as a presenter, voice-over artist and actress before moving behind the scenes as a writer, producer and story editor. Her work spans scripted drama, documentary, branded content and digital storytelling, bringing together narrative craft with strategic production expertise. Alongside her production work, she is passionate about nurturing emerging storytellers and has facilitated writing and storytelling

workshops at the African Academy of Cinematic Arts and Star Quality Creative Arts College.

Veli Mnisi is a South African writer. Mnisi is a winner of the Deon Hofmeyr Prize for Creative Writing from Wits University in 2018/2019, was Shortlisted for the Achmat Dangor Literary Prize in 2024, and was Longlisted for the Sol Plaatje European Union Poetry Award in 2023. Mnisi's work has appeared in Agam Agenda's "When is Now?," Lungs Project, *Odd Magazine*, TypeCast and the Sol Plaatje European Union Poetry Anthology. From 2022, Mnisi was a Writing Fellow at the Johannesburg Institute for Advanced Study's Creative Writing Workshop, and is currently a candidate for a Master of Arts in Creative Writing at Wits University, and Writing Fellow in the Wits Writing Programme.

Editors

Mehita Iqani is an academic researcher and writer in the field of media, communications and cultural studies, in which she has published widely. She is currently based in the Journalism Department at Stellenbosch University, where she runs research projects on climate and environment, health and happiness and creative communications through the DSI-NRF-funded SA Research Chair in Science Communication, of which she is Chairholder. She holds an MA in creative writing from Wits, and has short stories published in the *Johannesburg Review of Books* and the 2026 Karavan collection, *Threshold*.

Wamuwi Mbao is a writer and literary critic. He teaches literature at Stellenbosch University. His research interests are in South African popular culture, literary criticism, mid-century modern architecture, and automotive histories. He is the editor of *Years of Fire and Ash: South African Poetry of Decolonization*. He is a fiction critic with the *Johannesburg Review of Books*. His work has appeared

in various publications. His short story 'The Bath' was noted as one of the most significant short stories of South Africa's new democracy. He is the recipient of a South African Literary Award for his body of literary criticism.

rock _ time
FicSci 04

What is science communication? This collection, the fourth in the series, continues to argue that it can be creative writing aimed at the heart, rather than information directed to the mind.

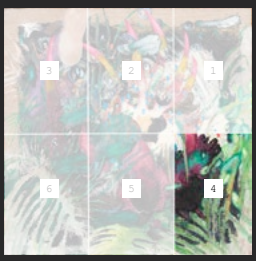
FicSci playfully subverts the term 'science fiction' to offer an experimental process that explores the limits of imagination in relation to scientific possibility (and vice versa). FicSci is an experiment in hybridised creative practice that induces new forms of knowledge-making between the hard sciences and the social world. This collection offers writing that emerged from an encounter bringing together creative writers with a geologist working on geochemistry and geochronology.

The presented research invited contemplation of scientific aspects of caves, chronologies and environments associated with human evolution in the Cradle of Humankind. The writings that emerged offer new creative engagements with deep time, rock formation and fossil dating.

Editors
Mehita Iqani and Wamuwi Mbao

Invited scientist
Tebogo Makhubela

Invited writers
Bonolo Llale, Buntu Makhedama, Cheri Hugo, Emma Paulet, Engela Duvenage, Gaireyah Fredericks, Joy Persis Lupiya, Suwilanji Siyangwe, Tayla Paige, Terry-Ann Adams, Thandiwe Gaobepe, Veli Mnisi



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2020
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Work: 125 x 125 cm

Collect all future FicSci anthologies to see the entire painting.

AFRICAN MINDS

ISBN 978-1-0672536-5-3