15 'The Greatest Alluvian Poet That Ever Lived'

15.1 Overview

This speculative narrative was composed to depict a 'vibrant' city for the Lisbon Triennale 2013 (Young, 2014; Sterling, 2013).

15.2 The Greatest Alluvian Poet That Ever Lived

XOE

This is how *Aurora Alluviata*, the native and dominant bacterial species of Alluvia, prefers its name to be written. XOE informs us these letters are chosen for the chemical onomatopoeia that symbolizes their morphology. 'X' and 'E' represent the asymmetric squid-like cytoplasmic extrusions at their poles, while 'O' conveys the body. In classical English, XOE is pronounced 'Zoe', which is also the Greek word for 'life'.

XOE speaks a chemical language that is forged by particle worms – bosons, leptons and hadrons – which stretch out into atoms and molecules. These molecular connections are the basis of all chemical languages, which are punctuated by the grammar of the electromagnetic spectrum. They are spoken by the most ancient life forms such as biofilms, which penetrate the soils, seas and skies. Yet, the chemical language is not confined to microbial species, but used by many other non-humans. Flowers and bees, for instance, seduce each other with electrochemical sonnets, enlivening different scales of interaction and giving rise to worlds that cannot be directly apprehended through human senses. Yet, XOE notes that our unperceiving human race regards the very idea of a non-human world capable of the same quality of thought that humans possess as 'fiction'. XOE considers this rather odd, since bacterial mood-producing oils modify human thoughts.

Left, right and up – the vacuole attendant swept a field of ions through the liquid crystals. The charged fluid spectacularly exploded into leaping images of the Alluvian cityscape, while the visitor stood momentarily enchanted by the stunning views of the city. Pillars twisted like tree trunks, rooftops dipped into scalloped edges and alleyways branched fractal-like through the diffuse, scintillating light.

'Dear God! The very fabric seems alive!' marvelled the visitor.

Left, right and down – the crystals melted from view as the vacuole attendant gestured the visitor towards the gelatinous tub. The attendant wore an unusually ornate bangle, which momentarily distracted the visitor. It seemed to be built from

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precious pieces that were intricately entangled, as if they had been woven together by a caddis-fly larva. He supposed it would much better suit a woman. The attendant gestured again, more urgently this time. Yet the man hesitated, feeling vulnerable, alien and as yet unclothed with an obligatory native microbial skin. The unfamiliarity of the occasion unsettled his prenuptial nerves. The tarry substance in the tub did not help reassure him, as it was not inviting.

Indeed, the visitor's instincts were telling him to run, to get out of this place – and quickly. Conflicted by the rising panic swelling in his chest, the man forced himself to be pragmatic, if not downright stoic about the whole process. Besides, he'd committed himself to the procedure when he proposed to take an Alluvian bride, and in any case, there was nowhere to run to. The visitor would never be able to leave the quarantine area untransformed.

Untrustingly, he crouched down inspecting the dark, viscous substance. Momentarily the visitor feared that he might be boiled alive. Yet, close up, the muck was cool. It appeared entirely clear, light and gel-like. He gingerly ran a finger across its surface, noting that he actually felt nothing at all. Trying to establish the character of the substance he squeezed it between his forefinger and thumb, but it felt equally unsubstantial. He sniffed at his fingers anticipating the stench of pondweed, but it was odourless. Finally, satisfied the goo would not hurt him, the man lowered one foot into the vat of glutinous substance, which continued to feel like nothingness itself. Registering the visitor's presence, the goo adjusted its chemistry to identically match the man's body temperature.

The vacuole attendant rolled his eyeballs at the visitor's tentative approach and obvious distaste for the immigration procedure, which required every visitor to be stripped of their native microbiome and replace it with XOE, Alluvia's indigenous bacterial species.

'Yes!' sighed the attendant petulantly. 'XOE feeds on light. That is why it's dark.' He was intensely irritated by the very idea of a foreigner in Alluvia. He couldn't help it. In fact, most Alluvians felt the same way, although they had learned to hide it better than the vacuole attendant. It was a superiority complex they felt in their flesh and bones. Their larger-than-life personalities oozed the conceit that Alluvia was a special place populated by extraordinary people. Only a few marriages were sanctioned, for economic reasons. This outsider was one of the 'lucky' ones.

The attendant lifted a large gold-plated helmet out of a trough, where it had been soaking in a soapy-looking fluid. He grunted unpleasantly as he lowered it on to the immigrant's shoulders. Then the attendant expertly snapped the fasteners on to the apparatus, which would deprive the visitor of his natural senses and speed his immersion into Alluvia's alternate reality.

'After this part, he's going to think he actually knows something about this place!'

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muttered the attendant, knowing full well that the immigrant could no longer hear him. The visitor sank into the substance and glutinous tendrils swelled in his orifices with the unobtrusive presence of a mosquito, displacing his alien biome.

The gloop brought its own kind of anaesthetic, providing perfect comfort so the visitor no longer distinguished between what was his outside and inside. Indeed, he felt absolutely nothing at all as he succumbed to the substance, which filled his sinuses, swamped his memories with Alluvian chemical stories, engorged his throat and seeped into his lungs.

In the clean room at the Ramachandran Scientific Institute in Pune, Nareen Qadir felt the filtration unit breathing cool air at the nape of her neck. She slid a robotically-prepared, live bacterial cassette under the 3D lens.

The red and cyan visual fields of her goggles burst into an immersive display of rod-shaped, asymmetrically tentacled bacterial bodies. The XOE were in good form, extruding cytoplasmic tools from their bodies that probed the environment. XOE swarmed like liquid crystals using their tiny tendrils to grapple with each other and align tail-to-toe and side-by-side. The display thrust the typical view of a congested logging stream of XOE that were rapidly forming a multicellular coherent expanse, or biofilm. XOE could produce such organized bodies very quickly indeed.

XOE were temperamental and could only be handled by whirring robots in a sealed glass room. Yet, Nareen had worked much closer with the bacteria in the past, having spent cherished time when she was small, keeping her father company in the laboratory. He had kept her busy by putting her in charge of holding and directing the various makeshift light sources that the XOE thrived on, so he could take pictures of his experiments. Although a single XOE cell was way too small to be captured with an ordinary camera lens, their biofilms were profuse and quite marvellous. Under a tungsten bulb they rippled as swirling, oscillating landscapes, while an ultraviolet lamp caused them to leap and scintillate. Yet these were simply memories of former times, when XOE could be prepared manually in ventilated hoods, and her father was alive.

Assisted by a tiara-like headset and data gloves, Nareen began to navigate the space by feeling what she was looking at under the lens as if she was the same size as a bacterial cell. XOE were 'prepared' for the experiment by immersing them in gold nanoparticles. These were hungrily ingested and acted like listening and speaking devices that responded to the electromagnetic pulses that were delivered and received through the viewing platform. Nareen could feel the whole spectrum of vibrations through sensory membranes on her gloved fingertips. These conveyed subtle changes in bacterial biochemistry, as a kind of microbial Braille. Although the young woman would have loved to return to working much more closely with XOE, this species had earned notoriety, glass walls and robots for being an unreliable, and valuable, species to handle. Indeed, the company revered XOE for its potential economic benefits.

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Nareen was only twelve when her father died suddenly. This was devastating but the family survived destitution on account of her extraordinary skill in deciphering bacterial codes. Indeed, her father's employers, the Biomediation Corporation, offered her a generous university sponsorship and a stipend to study languages, psychology and biological science. This generous gesture transformed her blossoming talent into matchless bacteriosemiotic skills. At eighteen she was a fully qualified 'sympathy microscopist', who could accurately interpret the nuances of bacterial chemistry. She was also the world's best XOE chemical linguist.

It was extremely difficult to get hold of XOE specimens, since the Alluvians would not agree to give samples of their 'ecobiome' to visitors. Although Nareen conversed daily with the XOE to better understand them, she did not understand exactly what role the bacteria played in shaping Alluvian culture.

Asif Raman was standing at Nareen's shoulder, pressing for information on how XOE could be cultured as bacterial workhorses. Initial trials had indicated that these strange yet temperamental bacteria could turn around a genetic sequence that ran at 30% productivity in *Escherichia Coli* into a nearly 99% efficient one. In short, the XOE were powerful 'synthetic biology' factories – which enabled the precision design and engineering of living things. This kind of potency had been previously unheard of, and the corporation was considering replacing *Escherichia Coli* altogether, which was an investment worth its weight in gold.

'Well', he asked impatiently, 'can it be commercially cultured?'

'You know', she replied dismissively, 'you talk like bacteria were just passive things. Like they have no will, or can exert no force of their own. You talk about them as if they weren't even alive.'

'Oh no, don't start this again!' complained Asif, 'Come on, they're just bugs, that's all! We've been killing them for centuries. Get them to do what we're asking.'

'That kind of superior attitude is exactly why they have also killed us. If we'd even acknowledged the presence of bacteria in this world, let alone tried to get along with them better, we may never have even needed to invent antibiotics', Nareen retorted haughtily, wrinkling her nose at the older man's pungent ketone-and-coffee laced breath, which managed somehow to leak into the airstream despite his nanoparticle-proof mask.

'And do me out of a job in the pharmaceuticals industry? Honestly, if I didn't know you were smart, I'd swear you were crazy. You've been around these things too long! How long have I known you and your imaginary little world of bacteria? Your father was just the same, complaining about their oppression by humans and the way they were "treated". Like they could feel, or reason ... or something.'

'I can't believe I'm still having this conversation with these corporate Neanderthals!' thought Nareen, as she concentrated on an interdigitating pattern of cytoplasmic fronds, which suddenly spread in a welcoming manner. She responded with her data gloves, tapping microbial Braille and watched the XOE biofilm ripple with the signals that spread from the tiny gold nanoparticles

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through their substance. These precious synthetic organs gave Nareen access to the life force of the bacteria and yes, even their communications patterns, which she regarded as 'thoughts'.

'Hold still a moment, please'

she requested, knowing that with this species in particular, it was counterproductive to issue a command. Having grown familiar with her inquisitive presence, the XOE paused for several moments. Nareen realized that she was face to face with a sentinel, which had special status in the XOE biofilm. Not all XOE were equal, or alike. Sentinels appeared larger, with more polar cytoplasmic extrusions that enabled them to make colony-wide decisions without a quorum from the others. The sentinel paused for milliseconds. Although this was an incredibly short time for a human, it was an unbearably long time for such tiny things.

'Thank you!'

she tapped.

'Listening to bacterial voices is real and it's what you pay me for. You might even be interested in what they're saying'

sighed Nareen, thinking that Asif was standing just a little too close.

'So, do tell me, then!' snapped Asif impatiently. 'I don't have the time or energy to argue with you. Just tell me if these little bastards can be cultured?'

Nareen looked up sharply at Asif,

'Only if they want to be. Can you take a step back please?'

XOE looked back up at the humans. Although the sentinel was behind several thick glass screens, it could observe Nareen as a whole sky of sensations that vibrated in strings of particle worms and shook with their potential. She offered the promise of change, a vibration that penetrated beyond the materials that physically contained them. XOE 'saw' Nareen as a place that could be inhabited – like a landscape, or city. Yet, to do so prosperously, XOE would have to transform its host human environment and colonize its flesh. XOE shared the collective wisdom held in the chemistry of more than 3.5 billion years of bacterial knowledge, which was common to all bacteria.

The sentinel could feel the fat man's intentions to enslave the XOE through the energy cloud that angrily radiated through the clean room. It could feel him browbeat and cajole the energy landscape that it identified as a young woman. The sentinel

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acknowledged Nareen's advocacy on XOE's behalf and transmitted this sentiment to the colony.

'Some people are quite smart'

thought the XOE as they listened to the human energy fields through their gold nanoparticle ears. Indeed, the XOE understood the political issues and intrigue that shrouded communication between the two humans much better than the people did.

The immersion was cleansing in many ways. For starters, the visitor's prejudiced view of Alluvians was corrected more effectively than with any conversations he'd previously had with his soon-to-be spouse. Alluvians were very well aware of their outsider culture and that they were globally regarded with much suspicion for their aversion to classical economics and, well, their slimy – or 'greasy' – ways.

Only Bollywood stars and the old sheikhs could get close to the young Alluvian women who left their homeland. Yet these women did not stay away for long, or yearn for heroic personal adventures, but sought marriage as a commercial transaction. Most guys knew that you could tell an Alluvian woman not just by her flawless skin, but also by how much she was drawn to gold. This was not simply a desire for wealth but something much more material. When Alluvian women wore the precious metal, their skin sparkled with the ethereal radiance of an Enlightenment painting, causing men and women to stop in the street and marvel. Yet they were stigmatized by the host culture as mud-slappers, or gold-diggers, and therefore the lowest of all castes.

Those very bold and wealthy lovers who dared to take an Alluvian bride, often against their families' wishes, were compelled to do so – not just for the companionship of the soapy flesh of their bride-to-be, but because they actually became 'infected' by their lover – and not necessarily in a bad way. One night with an Alluvian lover was enough to bewitch an outsider to seek her hand in marriage. Yet, it wasn't the woman who worked the magic, it was the XOE in her biome that secreted intoxicating, mood-enhancing, oily substances during intimate moments. 'Love-struck' fiancés were literally addicted to their brides-to-be and pledged pilgrimage to Alluvia. Here they were required to surrender any traces of their own microbiome and give their bodies over to the XOE, to live the Alluvian way.

The ectopic-eyed eagle disappeared to a speck high above the city. At this altitude, the biofilm gorged on sunlight and swelled the bird's XOE-soaked cavities, while the bioelectricity-powered head-mounted camera surveyed the quarantine zone. Through the cloudless sky below, the Alluvian biofilm could be observed patrolling its realm, like a giant terrestrial defence organ. The vibrancy of Alluvia's urban biofilm fabric starkly contrasted the city limits against the paler, drier surrounding area beyond the wall. The XOE swamped the city and was entangled with everything within it as a single, scintillating body. It lapped the wall, searching for foreign bodies that were cast out again, like so much flotsam. Indeed, it had grown so big, smart and rich

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that the XOE biofilm could organize humans' lives within its realm – and they were wilfully oblivious to it.

The enormous bacterial body was most active and strange at the coastline, where it stretched and retracted tendrils like pseudopodia, which reached out as far as some of the costal oil rigs. Yet, these vagrant islands never seemed to be brave enough to break free of their homeland, attaching themselves to the main body of the XOE biofilm through ropey underwater cabling. To the ectopic eye in the sky, these appeared as spider-web threads under the azure waters and kept visitor boats away from the coastline. Indeed, some intrusive vessels had already been ensnared in its mesh and bobbed abandoned, like silk-wrapped flies.

> 'So, Asif', challenged Nareen, 'if you propose to introduce XOE as a medical therapy to restore the surface of teeth, regenerate tissues and even promise rejuvenation – then do you ever consider whether this a good thing for humanity?'
>
> 'I'm a businessman, my dear', Asif assured. 'And business is good. There is a market for vanity.'
>
> 'Don't dismiss me! Ethics are important!' snapped the sympathy microscopist. 'Did you read the memo that outlined my recent findings?'
>
> 'You send me a lot of stuff, dear. Most of it, irrelevant',

patronized Asif, wondering what he'd have to do to bring her around to his way of thinking. She was all ideals and hormones with no real experience to ground any of them in. Her constant challenges and assertions required very hard work for very straightforward questions – like can XOE be commercially cultured? Unfortunately, the company needed her 'onside', to broker an arrangement with the XOE.

> 'As you know, XOE is physically connected to its home place, Alluvia, by forming biofilms. It seems that sometimes little breakaway colonies form, but they don't thrive for very long. My suspicion is that the saying "Alluvians go home" is not just an insulting stereotype that comments on Alluvians always returning to their city, but also refers to their inability to thrive for long without a direct connection to the XOE biofilm. This is why XOE are so darned difficult to culture.'
>
> 'Is there a way around it?' pondered Asif.
>
> 'We need to make them believe they are connected to their motherland if they're to thrive for any time beyond it'

Nareen replied, narrowing her eyes untrustingly at the older man who was studying the sentinel intently.

> 'So, if we are to fool XOE into thinking they're part of the mothership, just how infectious could they be? Would they cause an epidemic?'

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Asif knew that Nareen would find a way around this and began to think about what it would mean if XOE became the synthetic biology workhorse of choice. Would the company lose control of them, leading to endless lawsuits?

'XOE is not a virulent species – it's a commensal, community-loving creature. But it's a transformer. That means that when XOE colonizes other tissues, it converts them into a condition that best nurtures the colony. And while XOE have a pastoral respect for us, since we provide food, shelter in people's bodies – perhaps they even consider the human race as their living spaces, like cities for the XOE – we have no idea what they may be capable of, if we are no longer useful to them.'

Asif was growing impatient with Nareen's bacterial superiority speeches. 'Useful to them?' he laughed, spreading adipose ripples across his lab coat.

Nareen stopped gesturing to the sentinel, which had just adopted a remarkably attentive, splayed tentacle posture, and pulled down her mask, breaching clean-room protocol.

'Why is it so difficult for you – and the company – to understand there are other bodies, other living forces on this planet that may be just as smart as we are? What if these apparently "insignificant" life forms are actually running the show?'

'Calm down dear! And put your mask back on.'

Nareen ignored her superior.

'What you are proposing by using XOE as a synthetic biology "workhorse" is that our species should become assimilated by a smart bacterial swarm!'

'You're letting your imagination run away with you, don't you think, dear? Bacteria outnumber the cells in our bodies right now at a ratio of 10:1. Do you feel less "human", or more manipulated, when you understand this fact?'

Nareen raised her mask again.

'Aren't we already engaged in business propositions, buying and selling ourselves to XOE through Alluvian marriage arrangements?'

'Nobody forces them to get married, dear.'

'But does anyone really know what goes on in Alluvia? Do we really know who these people are? Or, perhaps they're not "people" – not as we understand the term, anyway!'

'Nareen', Asif put his hand on her shoulder, 'I know you blame the XOE for your father's death. Perhaps you blame yourself too, but do stop this personal crusade and start to appreciate that, whether you like it or not, you're part of this business. Besides, there are many ways that the XOE could bring great benefits – to all of us! You really need to get things in perspective!'

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'But we're not talking about "things" here! We're talking about people!'

'Indeed, and we intend to improve the lives of many, many millions of folks, just like yourself. Think about it. What would it be worth to you to have ten, twenty, thirty – maybe many more years than that – of healthy life? Wouldn't it be lovely to have your mother living long enough and healthily enough to help out with her great-great grandchildren?'

Nareen chose to ignore the veiled sexism and voiced a deeper concern.

'If you set up clinics, which I assume is what you intend, to distribute XOE around the world, beyond Alluvia, you need to ask yourself whose interests you are serving. Theirs – or ours.'

'My dear, if you're right about bacterial superiority, then perhaps you might consider we've already reached the stage where there is no longer a distinction. That whether bugs or humans are in control of events no longer matters.'

The scintillating bride-to-be and purged groom-to-be sat opposite each other on sacred ropey bench-like twists, atop a large mound of earth, just a few minutes' walk from where their wedding ceremony would be held. Observing tradition, their marriage ceremony would take place when the Moon was ripe, which was only three more days away. But now, they enjoyed the prenuptial ceremony to pledge devotional love, in the most fertile place in the city – the graveyard. This sacred place was marked by the respectful placement of golden sculptures around its base, which gradually sank into its rich mud and brought light to the underworld. Alluvian corpses, wrapped in digestible films that were destined to be recycled through acts of microbial rebirth, lay only a hand's breath beneath the romancing couple's feet. Yet there was no stench of rotting flesh, or signs of putrefaction, for Alluvians were buried with the creatures that would process their flesh and speed their reincarnation. Indeed, larvae, fungi and worms were ritually sealed within the edible biofilms and were expected to eat their way out of these capsules, releasing the vital essence of the deceased into the compost.

The decomposition of Alluvian corpses was therefore ceremoniously encouraged and funerals were happy occasions, celebrated by singing, dancing, feasting on 'XOE-fu' and the scattering of worms, dung beetles and fungi over the mound like confetti. Each of these dutiful living systems was morally bound to convert 'tired' flesh into vigorous matter. They transformed rotten tissues into metabolically vigorous root-like mycelial structures and organ-like nodules, which were the symbols of new life that rose up and protruded from the mound. Indeed, the mound was thought of as a living body, like a soil that housed a sacred community of transformers, which had special status within the community and which it was taboo to kill or harm. The mound body slowly travelled inland, away from the sea, dragging behind it a trailing scarp slope of rich soils that were planted out with beehived orchards and

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brilliant flowerbeds to seduce Alluvia's fat, drony insects. Throughout the year, devoted relatives paid tribute not by bringing cut flowers, which to an Alluvian was a shameful act associated with death, but by topping up the compost heap with rainbow earthworms, scarabs and bioluminescent mycelia. So, the mound was the perfect site for prenuptial rituals, since it was where Alluvian forces of life and death were completely entwined.

The couple began to lose themselves in each other's adoring gaze, sighing heavily and longingly with each cyclical exchange. As twilight fell, the families of the to-be-weds stealthily began to encircle the earth mound, which was the custom. They brought portable husks, which were positioned in locations where they anticipated they would best hear the conversation between the betrothed, which followed soon after the yearning ritual. Some family members brought shell-like listening devices to amplify the Sound of Romance, a transmissible and entrancing ripple of vibration said to stir the Alluvian soul, while others were more traditional and conjured holographic recording devices from sachets in their hessian garments.

When the families had settled, invited guests and love addicts, who got 'high' on prenuptial ceremonies and were tolerated for their dramatic displays of awe that were considered a form of light entertainment, also silently joined them. Yet the audiences of this Alluvian spectacle did not anticipate consummation in a carnal pagan act, but further sublimation of the feelings shared by the adoring couple through the lavish recital of poetry. This public ritual, which had begun privately enough, was considered a community experience, where everyone shared the love expressed in the marriage contract between man, woman, family – and colony. Indeed, Alluvians had a fascination for and even an obsession with 'love' – or the idea of it.

The extraordinary Alluvian light was dimming and pinpoint bioluminescent sources were already detailing the scalloped rooftops and twisted columns typical of the city's dwellings with a second night sky. Even the background molecular hum of the universe and the symphonies of particle worms quietened with anticipation for the groom-to-be to speak. The XOE felt the man trembling and his vocal cords seize. He looked upon his bride-to-be, whose gaze fell upon him with wide, dilated pupils, and her skin was ablush with anticipation. Her plumped lips were parted, ready to respond to the first devotional utterances of love with her own pledge of passion.

Several family members started coughing nervously, and were quickly stilled by their partners' sharp elbows. Waves of light swept the smouldering skyline, forming an aurora over the buildings. The man separated his lips too, as if to speak, or kiss, but there was no sound, his thoughts were drenched with adoration as XOE mood molecules pulsed through his veins, crossed the blood–brain barrier and filled the groom-to-be with the most unspeakable awe.

Unable to control their anticipation any longer, the front row of relatives began to weep. The emotion of the event was contagious and as the shaking man's vocal cords stayed silent, sparkling hot tears ran down the bride-to-be's cheeks. A large crowd had gathered around the prenuptial ceremony. Not family, friends or 'love' addicts,

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but other sections of society drew close to feel the enchantment of the occasion. The poor, who usually only watched these rituals of the wealthy on their liquid crystal screens, stood at a comfortable distance from the mound, peering for a glimpse of the shadows of the betrothed casting their silhouettes over the sacred mound, whose soils were now burning with bioluminescence. Even the beachcombers, who didn't really care for screen-based entertainment, came to bathe in the emotional waves that seared through the passion-taut air.

The intensity of the occasion startled a large dung beetle, which bolted from the compost and was snatched by a young man seated on a husk, who popped it in his mouth and crunched the twitching critter.

'Granddad! Don't eat the sacred scarabs!' scolded the small boy sitting next to him.

'Shhhhh!' winked the young man. 'Don't tell your mother! Or I'll never hear the end of it.'

The boy cast a suspicious glance at his senior, who goaded him to join in with a playful punch on the arm as a couple more brilliant-shelled beetles scuttled out of the mound.

'Hey, if you're quick enough to catch one, they taste much better than XOE-fu!'

Distracted by the sudden noise, the groom-to-be looked around and saw the weepers. Since he was fairly new to the culture, only having been recently purged, their presence was somewhat of a shock. He tried to formulate a word, a worthy thought, or a poetic phrase that would keep the promises made in his betrothal vows, but he could not free himself from the throws of sublime rapture. By force of will he conjured the shapes of ideas and projected them like shadows in the hollow cave that had become his mind. Yet, he was unable to apprehend anything. The shades flickered and left with no wise words or poetry to share.

Now, everyone present was crying. The bride-to-be had buried her hands in her face in a profuse stream of hot, scintillating tears, melting the complex, entwined geometries that had been so carefully painted on her fingers by female relatives using bacterial pigments.

The man began to reach for superlatives that might do justice to the bride-to-be. But there was still no sound. Indeed, he realized that since the ritual purging, his lungs were full of fluid and there was no breath to draw. Under scrutiny by a myriad of weeping eyes and XOE light beads, the groom-to-be realized that he had forgotten how to speak.

The XOE, stirred by the intoxicating human emotion on which they thrived as much as they did light, pulsed chemical signals throughout the biofilm, calling each

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single bacterium to 'quorum'. The sentinels orchestrated the ensuing vibration so that the colony could amplify and feed upon the emotional intensity of the occasion. To the throngs of sobbing people it seemed as if the extraordinary humming of XOE choirs emerged from nowhere. This wasn't so much of an audible sound, but a feeling; a sonnet of molecular strings that could move the Alluvian flesh and soul to ecstasy.

And so, the bride-to-be, now dripping dark goo from her nose and eyes, as the XOE spilled from her congested orifices, responded to her man. Stirred by the deepest poetry that anyone from the city had ever commanded, she tugged at her right index finger and extruded a splinter of bone from her body. The man, still speechless, remained agog as his bride-to-be wrapped her twitching finger fragment into a ring. Taking his trembling hand, she slipped it silently on to his finger, the expectation being, of course, that he would return the gesture during the marriage ceremony.

The audience called it 'soul-stirring'. They spoke in superlatives of the greatest poetry ever felt. It had been delivered to the colony on a moonless night, through a pledge of love that was carried by 'raw emotion'. And the conductor of the song of the XOE was not a stage fright-wrecked, recently-purged visitor – but a true Alluvian who could command the voice of the universe.

Asif waved his hand at the work desk impatiently. He needed to try another approach with Nareen to get her to align with the company's goals, to harness the hell out of these bugs and make a fortune in the synthetic biology industry. The field of rejuvenation was wide open! And so what if Nareen's father had died from an overwhelming colonization of the bugs that had, for reasons that were not quite clear, turned into a nasty infection that killed their host. Indeed, no one had forced him to sample a XOE biofilm by taking an illegal Alluvian bride when he was already married, abandoning her only months later to bring back his precious harvest. Since XOE were only bacteria, they couldn't possibly orchestrate an act of revenge on his betrayal of their culture. And since it was impossible to conceive of such a premeditated act, there was therefore no explanation for why the devious critters would pull such a blatantly suicidal act, other than their terrible 'moodiness'. This was exactly why the woman-child had been charged with the task of winning their complicity in the first place.

'But she has a point!'

he grumbled as he leafed through a series of holomovies that Nareen had taken earlier, 'We're investing a lot of resources trying to outmanoeuvre bugs!' Then he laughed aloud as he replayed the moment the *Aurora* sentinel 'stayed still' for Nareen.

'Goddammit!'

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He cursed as he shook his head in disbelief and gestured again at the work desk, zooming in on a hologram of an XOE sentinel.

'We're not outmanoeuvring them! We're negotiating with them!'

Asif scowled at the wilful creature, which appeared to be glaring right back at him.

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