

TIN CAN ALLEY

Emily Mackay

Thunder vaulted upward, sounding the sky. Renee lay limp as her mind darted after it, the miles of empty air beyond the ceiling suddenly, starkly revealed.

Heavy, dreamy, she listened to the storm for a while, letting herself hang luxuriously between asleep and awake, until the clock's malicious yammering pulled her into the morning. She slid her legs to the rough rush matting, heaving herself to the bathroom.

In her first months working at Viva Voce she'd always arrived early; these days she dragged out her shower, dressing and breakfast as long as she could. When she slid the door open at last, a louring sky loomed close over the village's huddle of low, turf-mantled buildings. She swilled the dregs of her oats into the composter by the door, wedged the bowl into an empty corner of the sink, and headed out.

Cutting it fine had advantages; the vac-train was quieter, for one. Renee's head fell back on the pod seat as she let go to the rush and the silvery swish, ceiling ads flashing over unfocused eyes.

"Duncarey Cross," the impassive PA announced too soon. That name had once been full of glittering promise; the legendary birthplace of a new kind of music business. Familiarity and the PA had conspired to gradually dull its shine.

Renee dived for the door as it began to close. On the platform, as she fumbled with tangled coat sleeves and bag straps, a woman wrangling a buggy into the lift smiled at her; her dark hair was heavily streaked with silver. Renee smiled back, patting down her rumpled clothes before making for the escalators.

Viva Voce hadn't been the first company in Tin Can Alley, as Duncarey Cross, once just another industrial estate outside Edinburgh, soon came to be known. Nonetheless, its origin story – two idealistic young solarpunks with a burning passion for music, writing the code that would upend an industry in their spare time – was the one that sold autobiographies by the million. Alan Crawson, genial in a punk-dad kind of way, and Shona Muir, silhouette-severe and crushingly direct, had become cult heroes, then folk devils. Viva Voce itself had become the byword for the machine-learning magic trick that had conjured up Tin Can Alley: bringing dead stars back to life.

People had once feared that artificial intelligence might replace musicians; that ageless, pouting avatars would sing the songs of the future. They'd been partly right: virtual stars were still a niche, kitschy part of Viva Voce's business. But once the technology had advanced to the point where a machine-learning model could absorb the entire work of an artist, or a scene, or a genre and generate (with help of careful, curating nudges) new music in



that style good enough to pass, the irresistible next move had been summoning the voices of the departed. Beloved divas returned for one more encore; old bands got back together beyond the grave. Before long, they outsold the living and their hologrammed performances topped the bill at the biggest festivals.

Renee emerged from the gleaming cavern of the station into gusting rain. As money had poured into Tin Can Alley, first from venture capitalists, then from stock flotations, and eventually from relentless hits, anonymous units had been replaced with self-consciously sustainable statement offices. Viva Voce's, a low, slanted disc, was just a few steps from the vac-train station, an arc of trees spooning it from behind. It was the sort of understated that couldn't wait to tell you about how understated it was, how the tones of its brick matched the local stone, how little it had taken from the Earth, how much it gave back through CO² scrubbers, rainwater filtration, and a roof full of greenery. All the windows were high-efficiency solar, using a tiny part of what they sucked from the now near-permanently shrouded skies to veil their dark gleam in subtle patterns, mimicking the play of light through leaves, or the pattern of cirrus stretching and breaking in the breeze.

Renee pulled a grimace at the retinal sensor, waited impatiently for the door's serene glide, and bowled into reception, a space so subtle and perfectly poised it always made her feel like a shambling, sweaty beast. She nodded with irritation at Dan on reception, who nodded back with confusion. They'd gone to the same school on the other side of the city, a fact they never acknowledged openly. Gangly, intense, sandy-haired, Dan didn't quite fit in this space, and clearly viewed Renee as something of a fellow outsider, a co-conspirator. This morning, he seemed determined to catch her eye and slow her down. Annoyed, she turned to fix him with a sharp look, half-pausing.

He jerked his head backwards. "Seen this shite?"

There was a new promo on the screen wall that took up one long side of the atrium. Renee didn't stop, but slowed enough to take in the image of a young boy conducting curlicues of sound and light with his fingertips, smiling in wonder as Bob Dylan, Madonna and Elvis joined him, adding their own hues and tones to the storm of music swirling around them. She grimaced again and scuffed off down the dim corridors without replying, flinging herself through the sifting room door as 8.59 became 9.00.

Necromancy was still Viva Voce's headline act, but for years now the labels, publishers and lawyers had used AI to make ample money from the living too. Artificial intelligence had never, from the earliest attempts in post-hippy California to the giant leaps at Duncarey Cross, really been able to write its own music, to create from nothing. The company's models always had training data to learn their craft from, whether, as with the first research triumphs, that was the whole history of recorded music, "borrowed" from the internet, or whether it was just the albums of, say, Joni Mitchell. Through a series of messy legal cases against the new upstarts, the established music industry had made sure AI music that didn't pay its dues to the artists behind it had been relegated to dark, outlaw corners of the underground, while the respectable businesses came to a detente with labels, publishers and streaming services. Since then, licensing costs had limited the creations of Viva Voce and the rest to the training data of a handful of songwriters at most – often just the one. Music linked to a real face sold better, anyway.

Once the rules had been thrashed out, stars began collaborating first with dead heroes, then with younger versions of themselves. Then they started delegating their collaborations, remixes and advertising deals to AI clones trained on their sound, donating any off-brand output to virtual stars. Then came the "seeds": miniature, commercialised versions of their AI models that fans could buy and play with, feeding them their own input for one-off, unsavable performances.

Behind the headlines, at the bottom of Viva Voce's prestige pile, the soundtrack and commercial department, Renee's daily bread, churned away. Feature films were often still scored in person by big names, but incidental music for serial dramas was nearly always left to the AIs. And for the lowest-profile gigs, the company's less successful clients – the ones who never made it – sold access to their work as fodder for the mass AI generation of library music, in exchange for monthly royalties.

Dropping her bag on the floor, Renee slumped into her comfortable chair, wombed in the softly shifting colours of the small, mostly bare room's luminant walls; her own private cocoon for perfect concentration. Most of the company's staff worked from home – use of a sifting room was a privilege earned only by the most productive. Leaning over to the screen of the simple terminal by her chair, she opened her files; the AI's first meal of the day was a creator called Lucy (Alan liked to call them "creators", rather than songwriters or musicians; the company's literature stressed that this was *all* a human process: musicians collaborating with fellow music lovers, driven by passion, merely mediated by machine).

Lucy was an older woman, living in Leeds, who'd had some success first as a DJ, then as a producer; her name had waned with the popularity of the newbleep scene. Now her music made her a small but regular income as input, her life's work a prompt for the machine to process and then mimic. Lucy was free to earn the rest of her living some other way.

It felt strangely invasive, knowing these small, sad details. Alan said that, just as with the big stars, studying the biography of a creator informed how you and the machine together interpreted and shaped their sound.

All afternoon, the AI cycled through different creators, moving from motif to motif, mood to mood, as it spooled out new music; Renee listened to the tracks, marking each a keeper or a duffer by mumbling voice commands or tapping on the screen, grouping them into playlists and albums for streaming services or subscription music libraries, assigning keywords and markets. When things got boring, she fed in a new idea to prod the AI in a different direction: a line of text from a random generator, a fresh concept (regret; undersea creatures; a ruined city), or a new instrument. It had excited her at first to seek out incongruous prompts: pit-band brass blared into delicate soundscapes, words of love whispered to aggressive metal. But it was faster and more productive to go with the flow that the machine quickly found in each creator's work; her early oddities hadn't attracted many streams or licences.

As the minutes piled up, her head slipped slowly down the chair, her backside towards the brim of the seat. By the time she resentfully lurched upright, she'd compiled a soothing hazecore playlist and an anthology of squelchy, exuberant house, and picked out a cavernously dark adult-pop track perfect for Nina, one of the more interesting virtual stars – a heel who delighted in mocking the stupidity and inadequacy of humans, to her dwindling fanbase's masochistic joy.

Sixteen more playlists and 12 albums later, Renee switched off the terminal, the soft play of the colours dimming behind her as she headed for the vac-train.

She woke in the small hours, twitchy with adrenaline and once more strangely aware of the miles of sky above her head. She opened her back-to-sleep book – worthy and boring, selected by a better self. After scanning the same two long, elusive paragraphs several times, she dropped it again and moved to her desk. Flicking on her earphones, she woke her phone and pulled up a folder. Most of its files hadn't been touched in months, some in years. Many had been created before she'd even started at Viva Voce.

She opened the track ironically titled 'Summer Jam!' and flipped it on to holo view, tracing its peaks and troughs with her finger until she hit the familiar knots and stumbling blocks, just where she'd left them.

There was a crash in energy and direction at the bridge, where every structural twist she'd tried had sounded crude, desperate or tacky. She tried swapping in a piano instead of the synth. Then a harpsichord. Turning the file this way and that, she tried instrument after instrument, threw chord sequence upon tempo shift at it, until dawn rose up unnoticed around her. After silencing her alarm, she closed the file again without saving her changes.

Blue to purple to rose to red; orange to yellow to green to blue. The walls cycled, and Renee sifted. She'd been three minutes late this morning; Dan had known better than to nod. Sounds shifted around her with the colours. New creators shuffled to the front of the queue to be processed – Danika from Solihull, Kenny from Aberdeen, Kerry-anne from Bromley – and the music flowed ever on, perfectly adequately, hour after hour.

Until it didn't. Her body jerked awake from the ears down; she nearly toppled the chair as she pulled herself up. A new song was unfolding around her, wild and bizarre and so shockingly good she choked into laughter.

The mix of styles was incongruous, the beat and the melody mismatched with their backdrop, and yet the song was whole and strong. It was full of stately, cosmic grandeur, but as immediate and human as a grabbed hand.

"Keep," Renee said. "Keep, keep." She reached for the terminal and left her hand there, fingertips resting on the thin screen as the song bloomed, a gentle, almost wry breakdown suddenly barrelling, in a burst of beats, to a peak of high, silvery beauty, then to a smooth, pulsing fadeout that felt like a promise that this beauty would survive into the future.

"Stop."

She needed to think.

There was something in this song, something about it that wasn't like anything she'd heard in this room before. It wasn't just uncanny; it seemed... alive, or... she struggled to find the name for it. Viva Voce staff rolled their eyes at binaries such as human or technological, natural or artificial, real or fake. The AI was just a tool, like a sampler or a guitar or a drum pad. Nobody named or anthropomorphised the models; there were no Alexas, Siris or Hals here.

And yet this song wasn't at all the kind of interplay between training set and machine mutation that she had grown used to gently nudging forward. It seemed to anticipate her expectations and to flip them, turning a critical eye back on her.

She pulled the bio for the current creator on to the screen: Hiran Smith-Newbold. He'd signed over the AI rights to his work just before he'd died in the Nipah outbreak three years ago, and on his death, the contract had passed to his widow. In life, he'd sold a few hundred albums, made it on to a few big playlists, but never really got a foothold.

"Play," she said quietly. The computer opened the potted best-of embedded in the biog. For 10 minutes she listened, skipping from track to track. It was good stuff, and to her taste – wide-ranging, lofty, rooted in a sort of science-fiction folk. She could faintly hear the origins of the song she'd just heard, but it was like comparing a cave painting with a Caravaggio. This music pleased her. That song had shocked her.

She went back to it, and it shocked her again. She played it over and over, each time finding new depths, new details. On the sixth play, she moved from the chair to the floor, rolling gently on to her back, watching the ceiling blush and fade as she listened on loop.

The end of day almost caught her by surprise; she went back through the nearest misses from the morning's output and hurriedly knocked together three chillout playlists, then returned to the song one more time before saving it to her phone.

The next morning, the AI returned to the humdrum as if nothing had happened, generating new songs that circled through safe themes of journey, discovery and utopia. Disappointed, Renee set to racing through her work, buying herself some time at the end of the day to focus on the song. She hungered to see the spark at the heart of it more clearly.

For the next few days, her life was a loop of restless nights, the rush of the commute, the motions of work, spare hours listening to the song on repeat. Trying to understand, she ran it through the AI again and again, feeding in a word here, a texture there, trying to nudge it clear of the parts where she could see the machine's work showing through, and the parts where she could hear the creator. She felt a thrill of unease as the true nature of the song inched into the light, revealing its lines; something pure and unpredictable.

She listened to it evolve in the evenings on the loop home, and at night as she walked around the quiet village. The homes had been modelled on Highland blackhouses and Icelandic turf roofs, updated with mycelium bricks and clever new ways to keep damp and mould at bay; 20 years of hard weathering and dogged lichen had them looking more part of the landscape than the architects could ever have hoped. She wandered past the shop and the playground, out through paths in the oat fields under a bright moon and back again to the empty hall, a huge open pavilion made of heavy stuff to batten down against the wilder storms and keep out the whipping rains. It was owned communally, and hosted parties and events at the weekend. Her neighbours kept urging Renee, the music expert, to put on her own; she'd got as far as naming a playlist, but it only had three songs on it. She preferred to go along to other people's nights, to judge their choices and smile at their enthusiasm, sometimes to dance. Wading through the damp grass, she climbed up on the stage and watched the constellations turn through the pillars. She closed her eyes and lost herself in the song, looping over and over.

"**D**uncrey Cross." Renee realised she had been, if not exactly asleep, not really awake either. She bundled her coat and bag between both hands and lunged through the doors as they beeped shut.

In reception, Dan was talking with someone. Renee couldn't hear what they were saying over the song, loud in her earphones, but Dan seemed to be coming off worse; his eyes widened in silent plea as he saw her. His combatant turned to follow his gaze, and in a glint of silver hair, Renee recognised the woman she'd seen on the platform a few days ago. She didn't smile this time. Her face was rigid with anger. Dan didn't look up, but stared at his terminal with determined focus. As the woman turned back, Renee hurried past the little girl pawing at the flashing screen wall.

The woman was back in reception the next morning. It wasn't the first time Renee had seen people hanging around the office, but it was the first time she'd really thought about it. No one from a publisher or a label would ever have to wait like this. That afternoon, she couldn't get anywhere with the song, and instead worked listlessly on pop-reggae playlists, sample sets and advertisers' libraries. She was still too tired to face the song directly when she got home that evening, but she listened to it as she fell asleep.

The next day, her shoulders hunched with tension as the reception doors whirred aside with agonising slowness, but Dan was alone, busy at his terminal. The pulsing, paranoid fear Renee couldn't quite look at was that the woman haunting reception was her songwriter's widow. Beyond unlikely, of course. Not *impossible*, but they had hundreds of creators on their books. For this woman to appear like the Shakespearean ghost of her guilt... why guilt, though? Renee's experiment didn't break the terms of any contract. And yet she hadn't told anyone about it, either.

Busy days raced by, and soon Renee was finished; she'd dispatched her regular work with even

more efficiency than usual as she polished the song on the sly – spending so long on one piece of music at Viva Voce was not so much frowned on as unheard of. Like an archaeologist of the future, with gentle brushing and careful taps, she had uncovered something that felt like pure music, a naked live wire of invention and beauty caught in a still-unnamed file.

She booked a morning meeting with Alan and Shona. As a fellow Edinburgh graduate, they'd always made a show of treating her with the respect due an equal, albeit in conversations kept as short as possible. She arrived early on the day – in her sharpest jumpsuit, hair neatly plaited – but of course Alan and Shona were earlier. They sat back, away from one another, as she swung open the old-fashioned door of the lavishly large, rarely used meeting room. “Good *morning*, Renee,” Alan boomed, his voice filling the space. “And what an unusually pleasant way to start one. Shona and I both hope” – he paused and turned to Shona, who stared at him unreadably – “that you're not leaving us.”

“No, no!” Renee laughed, too nervously, too brightly, lowering herself into a seat on the other side of the vast table. She dug for her phone. “I've got something to play for you, actually... a little side-project.” Turning from their raised eyebrows, she cast the file to the room's built-in speakers and shifted back in her chair, fixing her eyes firmly on the whorls of the wood panelling above their heads. The music rose around her, swelling and dropping, leading and feinting; it held her heart in suspension as it unfurled, building to its almost unbearable peak, cradling her in the sadness that followed, gently lifting her chin at last to a new dawn. As the coda faded out, she followed, coasting on the clouds after it for a few moments.

“Well,” Alan cut in, cradling his hands behind his head as he leaned back. “That was a great, great track, for sure. One of ours, or one of yours?”

As Renee fumbled for the right answer, he talked on, throwing his hands wide. “It had a great sense of peace about it, don't you think, Shona? It would fit perfectly in one of the sacred collections.”

Now all words deserted Renee. The *sacred collections*? Her least favourite library sector, this repository for pious ambience took a broad-church approach to spirituality, adapting to funeral parlours, meditation centres and yoga studios. The song was vital, not spiritual; couldn't they hear that?

Shona nodded briskly, whisking her phone from the table in a gesture loudly signalling finality. She'd long been the subject of a rumour that her impressive pallor was the side-effect of a failed biohacking experiment, an attempt to achieve human photosynthesis. Ridiculous, but you could see why it stuck.

Renee had to strike now, or it was all over. “I think it's a bit better than the sacred collections.”

Shona put down her phone again and glared. Disparaging any area of the company's work was not looked kindly on. Alan, too, had stiffened slightly, sitting back, but retained his benign, concerned smile.

“If it's your own work, Renee,” he ventured, “I'm sure we could work out a special arrangement for you, as one of the family.”

She tried for a few minutes to explain that no, it wasn't really her work, but found herself struggling to tell them what, exactly, it actually was. With a sense of falling through space, of public nudity, of being behind the wheel of a vehicle she couldn't control, she realised that she'd never really been sure herself.

“Well... *of course* it's not either the creator's or the model's,” said Alan, all smiling, patient perplexity. “That's true of everything we do. We are the grey matter in the grey areas.”

It was a joke – or slogan, she'd never really been sure which – as old as the company.

Renee breathed in, looked down. Everything seemed very outlined and present; the tight weave of the rush floor, the dust in the join between shoe and sole. Stammering mangled apologies, she got out as quickly as she could.

Out in the fresh, damp air, she turned the song over in her mind, seeing it starkly, with Alan and Shona's eyes. She was no longer clear what she'd been trying to do these past days, what she thought she'd found in her supposedly pure song. Alan was right about that at least: all Viva Voce's music was the grubby in-between. Her song had felt different, like it didn't belong to the AI, like it didn't belong to Hiran Smith-Newbold, but it belonged to both more than it belonged to her, a mere deluded tweaker. She sat on a stone bench, letting the cold and the wet soak through, and watched starlings bob at the edge of the trees, sifting for their own treasure.

As the milky light began to fail, from around the corner she heard the swish of the doors, quick footsteps, and small shoes skittering. The silver-haired woman tore away from the office, fury streaming in her wake like ragged smoke.

As she turned, waiting for her daughter, she caught sight of Renee, whose pale garment was like a white flag amid the settling evening. She glared, grabbed the child's hand and strode on. Renee sat stupidly, feeling exposed.

Back in the sifting room, she lay on the floor and cried hotly and messily. As the illusion of the song collapsed it had taken the whole numb edifice down with it, and she saw with nauseous clarity how much she hated this job, how much time she'd wasted in this awful place. Her sobs hitched and heaved, then soothed and ebbed with the melting colours.

Once they were spent, she shuffled to the screen and brought up her work history, sorting it by streaming plays and by licences purchased. With a furious rattle of keys, she reattributed the most successful tracks to Hiran Smith-Newbold until a long column of his name filled the screen. She stared at it until her breathing slowed. A pointless gesture, daft: each name she'd overwritten was another life, and with the system as it was, it wasn't like a successful track translated into more than pennies per thousand plays, anyway. She booted the chair across the room with a curse and undid the changes. Flopping to the floor again, she closed her eyes and drifted.

And when all the noise had stopped, the last voices trailed out on limp goodnight jokes, she softly opened the door.

Dan had, as she'd hoped, left his station logged in; he'd somehow managed to get access to one of the techno genre models and had it running on a loop overnight, perhaps illicitly reworking his own private composition, or shaping some other secret. Curiosity moved her hand to explore, but she tactfully shrank the window to one side.

She opened, instead, his inbox. "Search," she said. "Sender, Smith-Newbold." The computer brought up a clutch of results, dating back a year and a half; at first formal and sporadic. They grew more frequent, then angrier; like many of Viva Voce's lower-profile clients, Smith-Newbold and his partner had thought his work would bring regular income, but the widow had barely received anything. Renee pulled the messages to her phone. "Close search," she said. As the results window winked shut, a similar heading caught her eye: "Request for payment info". This time it wasn't from family, but a creator herself.

More searches released a clamour of frustrated, furious, lonely voices. Requests of this kind seemed to make up a good third of Dan's inbox. No wonder he, too, needed a side-project. Renee read for a few minutes, guilt and anger growing, then saved as many as she could find and returned to the sifting room.

All night, as the colours danced around her, she worked. She took the song and spliced and cross-pollinated it; she fed all those different creators' frustrated pleas into the AI as lyric prompts. She tracked down their catalogues in the library, dropping in splashes of their styles. Creations met and sparked, cultures clashed and phased and clicked, and each new addition brought fresh twists and rushes. The work was fast and fertile with so much input, and by the time the night began to soften, the original song's beauty had been refracted in manifold forms and colours, led down strange paths into a rich, weird and unruly hoard of new work.

She saved it to the library with the highest ratings, backdating and crediting each track to the company of songwriters whose messages she'd taken: it was the best she could do for now. The creators' pleas and accusations, fed to the machine, retained little of their meaning or purpose, but in all a ghost of loss, warning or foreboding lingered. In the best, anger was an energy.

As dawn broke with the bubbling of birds and the rush and hum of the loop, Renee wrote a note for Dan, leaving him her address, and headed home at last to sleep.

Emily Mackay, 40, is a writer, subeditor and editor born in Scotland and based in Southend-on-Sea. She writes about pop, rock and electronic music for the *Observer*, *The Guardian*, and others, and in 2017 published a volume in Bloomsbury's 33 ⅓ series on Björk's *Homogenic*.

