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**Volume:** 50 **Issue:**  
**Month/Year:** Spring 2008  
**Pages:** unknown

**Article Author:**

**Article Title:** Powers, Richard; Modulation

**ILL Number:** 49701375



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# Modulation

## Richard Powers

DO

FROM EVERYTHING THAT Toshi Yukawa could later determine, the original file was uploaded to one of those illegal Brigadoon sites that appeared, drew several thousand ecstatic hits from six continents, then disappeared traceless, twelve hours later, compressing the whole arc of human history into a single day: rough birth, fledgling colonies, prospering community, land grabs and hoarding, shooting wars, imperial decay, and finally, much gnashing of teeth after the inevitable collapse, which seemed to happen faster each time through the cycle. The kind of site that spelled *music t-u-n-z*.

Yukawa—or the artist formerly known as free4yu—was paid to spend his days trawling such sites. When he was twenty-six, the Recording Industry Association of America surrounded his apartment, coming after him to the tune of \$50,000 and four years in prison. He was now twenty-eight, out on parole, and working for his old enemies. His job was to study the latest escalations in the arms race that kept a motley army of hackers, crackers, and slackers running roughshod over a multibillion-dollar industry, and then to develop the next counteroffensive to try to reclaim file-sharing no-man's-land.

By Yukawa's count, the average illegal file server could satisfy half a million happy customers across the planet before being shut down. Most looters rushed to grab this week's tops of the pops. But even files with no identifying description could rack up hundreds of downloads before the well went dry. Much later, Yukawa guessed that the infected track might have installed itself onto as few as fifty initial machines. But as his friends in digital epidemiology were quick to point out, all it took to start a full-fledged epidemic was a single Typhoid Mary surprise package slipping through quarantine.

## DI

A week before the music changed, Brazilian journalist Marta Mota was grilling a strike brigade attached to the Second Infantry Division near Baqubah in the explosive Iraqi province of Diyala. She was looking for a story for the *Folha de S. Paulo*, some new angle in the endless war that hadn't already been done to death. The stress the combatants had lived with for years had broken her in three days. All she wanted was to get back to her apartment in Tatuapé and write some harmless feature about local rampant corruption.

On the day before she left Baqubah, she interviewed a young American specialist who called himself Jukebox. He described, in more detail than anyone needed, how part of his informal job description involved rigging up one of the M1127 Stryker Reconnaissance vehicles with powerful mounted speakers, in order to pound out morale-boosting music for the unit during operations. "What does this music do?" Marta asked the soldier, in her lightly accented English. The question bewildered him, so she asked again. Jukebox cut her off, somewhere between impatience and amusement. "What does it *do*? That depends on who's listening." When she pressed for details, Jukebox just said, "You know what the hell it does."

At his words, Marta Mota snapped back in time to Panama, listening as American Marines tried to flush Manuel Noriega out of his bunker with massive waves of surround-sound Van Halen. That was two decades ago, when she was still a fledgling journalist in her twenties, absolutely convinced that the right story could change the conscience of the species. Since then, in combat zones on three continents, she had written up far more soul-crushing sounds.

She asked what music the Stryker vehicle pumped out, and Jukebox gave a rapid-fire list: the soundtrack of the globe's inescapable future. She asked for a listen. He pulled out something that looked like those slender, luxury matchboxes set out on the tables in her favorite Vila Madalena jazz club. She inserted the ear buds and he fired up the player. She yanked the buds out of her ear, howling in pain. Jukebox just laughed and adjusted her volume. Even at almost mute, the music was ear-stabbing, brain-bleeding, spine-crushing stuff.

"Can you copy some of these tracks onto my player?" she asked, and fished her device out of her bag. She would write up the musical recon operations later, in Frankfurt, while on her way back home.

The sight of her three-year-old player reduced Jukebox to tears of

mirth. He pretended to be unable to lift it. "What does this beast weigh, like half a pound?"

## RE

On the campus of a midwestern college dead center in one of the I-states, in the middle of a cornfield that stretched three hundred miles in every direction, a recently retired professor of ethnomusicology walks through a dusting of snow across the quad to his office in the music building to begin his permanent evacuation. Jan Steiner was supposed to have vacated back in August, to surrender his coveted space to a newly hired junior faculty member; it's now mid-December, the semester over, and he's still not started culling.

Born in the late twenties to a German-speaking family in Prague, Steiner came to the States just before half his extended family was rounded up and sent east. He moved from a Czech enclave in Queens to Berkeley and Princeton, and from there, he went on to change the way that academics thought about concert music. He has taught at his privileged college for as long as anyone alive, and he has occupied his office one semester longer than the college allows.

He follows the stone path through a break in a hedge and comes alongside the Doric temple to Harmony. For the first time in years, he notices the names chiseled into the building's limestone frieze: Palestrina, Bach, Mozart, Beethoven, Schumann, Brahms, and—after decades, he still can't help smiling—Carl Maria von Weber. It could've been worse; there's a University of California music building that celebrates the immortality of Rameau and Dittersdorf. His parents revered these names above any humanitarian's; beyond these names, they said, the rest was noise. Steiner's father went to his grave holding his son partly responsible for the twilight of these gods.

Once, at the peak of the iconoclastic sixties, Jan Steiner suggested that all these names be unceremoniously chiseled out of their limestone and replaced by thousands of names from all places and times, names so numerous and small they would be legible only to those willing to come up close and look. Like all his writing from those heady days, his jest had been deadly serious. The whole sleepy campus was outraged; he'd almost been driven to finding work elsewhere. Now, a third of a century on, when the college would probably leap at such a venture, Jan Steiner no longer has the heart to propose it again.

Before Steiner and his like-minded colleagues set to work, scholars wrote about music mostly as an aesthetic experience, masterpieces to be celebrated in religious terms. After his generation's flood of publications, music took its place among all other ambiguous cultural work—a matter of power relations, nationalism, market forces, class contestation, and identity politics.

Jan Steiner gazes up at the Doric temple's entablature, circa 1912, and squints in pain. Could he still tell Palestrina from Allegri, in an aural police lineup? When did he last listen to anything for pleasure? If this building were to collapse tomorrow, what would he advocate, for the replacement frieze? Just spelling out the solfège syllables of the chromatic scale smacked of Eurocentrism.

He lets himself into the building's side door and makes his way up to the second story. Even on a snowy December Sunday, the practice rooms are going full tilt. He walks past the eight cubicles of baby grands—Pianosaurus Rex in full, eighty-eight-key sprint. The repertoire has certainly expanded in his half a century on campus. The only fragment of sound in the whole polychordal gauntlet he can name is the John Cage emanating from the empty cubicle on the end.

Other voices, other rooms: he's given his life to promote that, and the battle is all but won. Scholarship has discovered the ninety-eight percent of world music it hitherto suppressed. Elitism is dead, all ears are forever opened wide. So why this pall he's been unable to shake for these last several months? Perhaps it's the oppressiveness that Paul Hindemith once attributed to Bach in his last years in Leipzig: the melancholy of accomplishment.

He unlocks his oaken office door and flicks on the light. The tomb is overflowing. Every flat surface including the dark linoleum floor is piled with precarious paper towers. Monographs bulge off the shelves. Folders and collection boxes stack almost to the fluorescent lights. But he can still put his finger on any desired item, in no more than a few minutes. The problem is desire.

Now he must judge every scrap. There's too much to save, but it would stop his valve-repaired heart to throw any of it out. Five decades of iconoclasm. The college library might sift through it and keep anything of value. But who in the last five years has set foot in the college library?

He drops into his desk chair and stares again at the awful severance gift from his retirement party. The department presented the mobile device to him in a teary ceremony: a clock, calendar, appointment book, phone, Web browser, and matter transporter, but mostly

a bribe to get him to quit quietly. The thing also, incidentally, plays music. Even the name sounds like *Invasion of the Body Snatchers*. He should have known, half a century ago, that music, like the most robust of weeds, would eventually come in pods.

And this one came preloaded with every piece of music he has ever written about, recorded, or championed. Turkish hymns and Chinese work-camp songs, gamelan orchestras and Albanian wedding choirs, political prisoners' anthems and 1930s radio jingles: his entire life's work arranged for an instrument that everyone could learn to play without any effort. What were his colleagues thinking, giving him his own back? What he needs is music he hasn't yet discovered, any sound at all that hasn't disappeared into the oversold, derivative, or market branded. He grabs the device, flips it on, and blunders through the menu screens, looking for a song he might somehow, by accident, have blessedly forgotten.

## RI

On the night before the exploit launched, Mitchell Payne was on his way from Los Angeles to the Sydney 8-Bit Chiptune Blowout. The first humans to grow up from infancy on video games had stumbled inadvertently into young adulthood, a condition that left them stricken with nostalgia for the blips and bleeps of their Atari childhood. And where there was nostalgia, there were always live concerts. The Sydney event was Mitchell's third such extravaganza. The chiptune phenomenon had hit North America ten months ago, which meant it would soon erupt into mass consciousness and be dead by this time next year. But until such demise, Mitchell Payne, leading Futurepop composer and perhaps the greatest real-time Roland MC-909 Groovebox performer of his generation, had found another way to help pay off his Sarah Lawrence student loans.

The one-hundred-and-fifty-grand debt didn't worry him so much. What bothered him, as he hunkered down over Palmyra Atoll for the next hour's installment of in-flight entertainment from the Homeland Security Channel, was the growing conviction that at twenty-three, he no longer had his finger on the pulse. He had lost his lifelong ability to keep one measure ahead of the next modulation. He'd recently scored only seventy-two percent on an online musical genre test, making stupid mistakes such as confusing acid groove, acid croft, acid techno, and acid lounge. He blamed how busy he had

been, trying to master the classic eight-bit repertoire. He told himself that he had just overthought the test questions, but in reality, there was no excuse. Truth was, he was slipping. Things were happening, whole new genres crossbreeding, and he was going to be one of those people who didn't even hear it until the next big thing was already in its grave and all over the cover of *Rolling Stone*.

But he had more pressing worries. In Sydney, he'd be up against some classic composers, the true giants of the international chip-tune movement. Without some serious art on his part, they'd laugh him off the stage. Fortunately, his material was beyond awesome. He pulled his laptop out of his carry-on and fired up the emulator. He flipped through his sequences again, checking tempi, fiddling with the voicing of chords. Then he peeked again at the climax of his set, an inspiration he still couldn't quite believe he'd pulled off. He'd managed to contrapuntally combine the theme from Nintendo's *Donkey Kong* with Commodore 64's *Skate or Die*, in retrograde inversion. The sheer ecumenical beauty of the gesture once more brought tears to his eyes.

When he looked up again, the in-flight entertainment had graduated to that new reality show, *Go for the Green*, where ten illegal alien families compete against each other to keep from getting deported. He watched for a few minutes, then returned to his hard drive's 160 GB of tracks. But before he could determine where he'd gone wrong in discriminating between epic house, progressive house, filtered house, and French house, the stewardess was on the sound system asking everyone to turn off and stow all portable devices in preparation for landing in Sydney.

## MI

Toshi Yukawa took too long to realize the danger of the virus. He'd seen the chatter on the pirate music discussion boards, the reports of files that downloaded just fine then disappeared from the receiving directory. Some guy named Jarod would complain that his file count was broken after syncing with his Nano. Some guy named Jason would report that the same thing was true on his Shuffle. Another guy named Justin would confirm for his Zen. Then another guy named Dustin would chime in, "Get a Touch, you freaking noobs, it's been out for weeks."

Any file that hid itself was trouble. He ran some tests on the twelve

machines behind his router firewall: five subdirectories were compromised. He could discover nothing else until he synchronized these machines with portable devices. After syncing, three different handhelds—a music player, a pocket PC, and even a cell phone—showed flaky file counts. Yukawa realized that he was looking at something technologically impossible: the very first backdoor infection of multiple music players.

The ingenuity of the code humbled Yukawa. The main file seemed to figure out what kind of mobile device was attached to the host computer, then loaded in the appropriate code. But the ingenuity got better, and worse. On next check, Yukawa's five suspicious desktop directories had multiplied to twelve. The malicious payload was attaching itself to other files.

What kind of person would want to punish music traffickers? There were the geek hacker athletes, virtuosi like Toshi had been, simply giving their own kind of concert on their own astonishing instruments, regardless of the effect on the audience. There were always the terrorists, of course. Once you hated freedom, it was just a matter of time before you hated two-part harmony. But when he saw how this new virus could spread, Toshi Yukawa wondered if he wasn't being set up. Maybe some of his colleagues at the Recording Industry Association had developed the ultimate counterstrike for a world where two hundred million songs a day were sold, and even more were borrowed. And maybe his colleagues had simply neglected to tell him about the new weapon.

Some days he wasn't even sure why the RIAA had hired him. So much music could be had by so many for so little that Toshi should have long ago been driven into honest work, say eclectic format disc-jockeying for Starbucks. There was pay what you want and genetic taste matching and music by statistical referral. Customers who liked Radiohead also listened to Slipknot. If you like Slipknot, you may also like the Bulgarian Women's Chorus. The vendors had your demographic, and would feed it to you in unlimited ninety-nine-cent doses or even free squirts that vanished after three listens. He owed his job to saltwater syndrome. Drinking made you thirsty. Buffets bred hunger.

And some kind of strange musical hunger had bred this virus. Whoever had made the payload had made something beautiful. Yukawa had no other word for it, and the way the thing worked scared the hell out of him. Three days into his hunt, he discovered that four other computers behind his firewall were now infected.

These boxes had gone nowhere near an illegal download site. The virus had somehow uploaded itself back up to shared music service software, and was spreading itself through automatic synchronization onto innocent bystanders.

A sick and brilliant mind; that's what Toshi Yukawa was fighting. He felt a wave of disgust for anyone who couldn't put such gifts to better use. Then he remembered himself, just four years ago: a collector so obsessed with liberating music that he'd all but stopped listening to it.

## FA

Marta Mota woke up in her economy hotel on the Schönstraße near the Frankfurt Hauptbahnhof with a tune in her head. Not a tune, exactly: more like a motif. She couldn't altogether sing it, but she couldn't shake it, either.

It lasted through her hot shower—a marvelous indulgence, after Iraq. It persisted through the heavy black breads and sausages of German breakfast. It was still there as she handled her e-mail and filed another story with *Folha* on the Diyala campaign. She had contracted what the Germans called an *Uhrwurm*, what Brazilian Portuguese called *chiclete de ouvido*: a gum tune stuck in her relentlessly chewing brain.

As earworms went, this one wasn't bad. She'd spent an hour yesterday listening to the testosterone storms that the American soldier had copied for her. She'd needed two hours of Django Reinhardt and Eliane Elias to drive that throbbing from her mind. What she hummed now, she felt sure, was nothing she'd heard in the last five days.

She Skyped her mate Andre at the appointed hour. He was consulting, in Bahrain. The world was insane, and far too mobile for its own well-being. She only thanked God for dispensing Voice Over Internet just in time.

Andre asked about Iraq. There was nothing to say. Everyone knew already, and no one could help. She told him about the earworm. Andre laughed. "Oh yes. I had that for three months once. Kylie Minogue. I thought I was going to have to check into a hospital. You see? The Americans will get us all, one way or the other."

She told him she thought Kylie Minogue was Australian.

"Alabama, Arizona, Australia: it's all a World Bank thing, right?"

He asked how the tune went. She tried to describe it. Words were as effective at holding music as smoke was at holding water.

"Sing it," he commanded.

She swore colorfully. "Sing it! Here? In public?"

The man seemed to do nothing but laugh. Wasn't there grimness enough, out in Bahrain?

"The Internet is not public," he told her. "Don't you know that? Everything you do on the Internet instantly disappears."

She tried to sing a few notes, but it was hopeless. The earworm wasn't even a motif. It was more a harmony, a sequence of magical chords that receded when she focused on them.

"Where do you think you heard it?"

She had no clue.

"I read an article about why this happens, but I can't remember it. Would you like the garbled version?"

She said yes. That was the beauty of free communication. They could be as silly as if they were lying next to each other in bed. Andre recounted his jumbled article, something about a cognitive itch, some combination of simplicity and surprise, the auditory cortex singing to itself. He thought he remembered something about the most common stuck tunes coming from the first fifteen years of a person's life.

"You need an eraser tune," he told her. "A good eraser tune is as sticky as the original, and they cancel each other out. Here's the one that worked for me." And into his tinny laptop computer microphone in Bahrain, in a frail but pretty baritone she hadn't heard for way too long, he sang a few notes that rematerialized in her Frankfurt hotel as the theme song from *Mission Impossible*.

It didn't help, and she went to bed that night with the phantom chords taunting her, just out of reach.

## FI

Jan Steiner sits in his windowless office, listening to his life's work. It isn't bad, as life's work goes. But all these sounds have become so achingly predictable. He can't listen to anything for more than thirty seconds without hearing political agendas. Somebody preserving their social privileges. Somebody else subverting them. Groups of people bonding together with branded tunes that assert their superiority over everyone with different melodies.

He has recorded hundreds of hours of what people now call "world music," and written about thousands more. He always paid the performers out of his modest grant money and gave them any rare recording profits. But he has never taken out a single copyright. Music belonged to everyone alive, or to no one. Every year, in his Introduction to Music lecture, he told his freshmen the story about how the Vatican tried to keep Allegri's *Miserere* a trade secret, refusing even to show the score, but insisting that, for the full mystic aura of the piece, one had to come to Rome and pay top dollar. And the protectionism worked until the fourteen-year-old Mozart, in Rome for a concert, transcribed it perfectly from memory, freeing it for performance everywhere. And every year, Jan Steiner got his freshmen cheering the original bootlegger.

The idea was simple: put your song out in the world, free of all motives, and see what other people do with it. When his scandalized colleagues asked how musicians were supposed to make a living, he pointed out that musicians in hundreds of countries had eked out a living for millennia without benefit of copyright. He said that most music should be amateur, or served up like weekly cantatas knocked out for the Glory of God alone.

He sits on his green padded office chair, tipped back on the cracked linoleum, under the humming fluorescent lights, listening. He listens to a traditional Azerbaijani mourning song, as personal a lament as has ever been put into tones. He found it gut-wrenching when he first recorded it, two decades back. Now all he can hear is the globally released feature film from a year ago that used the song as its novel theme music. The movie seemed to be mostly about potential residuals and the volatile off-screen escapades of its two stars. The soundtrack made more money in six months than any Azerbaijani musician had made in a lifetime, and the performers on his track—the one that had brought the haunted melody to North America—had seen not a penny.

Just to further torture himself, he switches to his other great recent hit: an ecstatic Ghanaian instrumental performed entirely on hubcaps and taxi horns that only six months before had been turned into an exultant commercial for global financial services. This one also made a mint as a cell phone ring tone.

He has no one to blame for these abuses but himself. All music was theft, he has maintained over a lifetime of scholarly writing, since long before sampling even had a name. Europe used to call it *cantus firmus*. Renaissance magpies used to dress up millennium-

old Gregorian Psalmodic chants in bright polyphony. Whole musical systems—Persian *dastgāhs* and Indian ragas—knew nothing about ownership and consisted entirely of brilliant improvisations on pre-existing themes. The best songs, the ones that God wanted, were the ones that someone else transposed and sang back to you, from another country, in a distant key. But God hadn't anticipated global financial services jingles.

Back in the 1970s Steiner had predicted that the rise of computing would save music from death by commodity. Armed with amazing new ways to write, arrange, record, and perform, everyone alive would become a composer and add to the world's ongoing song. Well, his prediction had come true. More music of more variety was being produced by more people than any ethnomusicologist would ever be able to name again. His own illiterate grandson was a professional digital musician, and Jan Steiner finds the boy's every measure unbearably predictable.

He works his way through the towering stacks of offprints, pitching mercilessly. While he works, he leaves the player on shuffle, letting it select his life's tracks at random. By the time he leaves, hours later, he has thrown out two large garbage bins, and it's made no visible dent on the office. He stashes the player in his coat pocket as he leaves the building and heads back toward the snowy quad. Outside, it's night, and silent, the only track he can bear.

But as he rounds the corner of the Georgian psychology building, a tune comes back to him. *Comes back* isn't quite right, since this one is nothing he's listened to this evening. He can't quite say whether he's ever heard it before, or even what scale or mode or key it wants to be in. As far as he can tell, this track—if it is a *track*—has gotten away safely, innocent, never repackaged, let alone heard by anyone.

## SOL

In Sydney, Mitchell Payne felt a song coming on. It had banged around his head since deplaning. This was dangerous: when melodies came to him out of the blue, it usually meant he was ripping someone off. He wasn't alone. There were only so many notes—twelve, to be precise—and they could be combined in only so many sensible ways. Someday soon, a garage band out in Cos Cob was going to string together the last viable melody, and music would be pure plagiarism and mash-ups, from then on.

The industry was already pretty much there anyway. Covers and remakes, quotations and allusions, homage, sampling, and down and dirty five-fingered discounts. A Korean kid covering a Taiwanese kid whose arrangement imitated the video game *Pump It Up* whose soundtrack mimicked an old Brian Eno performance uploads an electrifying guitar video of Pachelbel's Canon in D, already the most hacked-at piece of the last three hundred years, and immediately, people from Panama to Turkmenistan post hundreds of shot-perfect recreations, faithful down to every detail of tempo and ornament. . .

The melody nibbling at Mitchell's brain as he set up his loopers, shifters, sequencers, and MPCs on the stage of the small Haymarket theater might have come from anywhere. It was at once oddly familiar and deeply strange. He cursed the snippet, even as it haunted him. He couldn't afford Stuck Tune Syndrome just before performing. He had to settle into the chiptune groove, that quantized trance that the children of Mario demanded.

But by the time he finished testing the gear, Mitchell was flipping. He stood inside the circle of banked electronics, his Mission Control of waveform generators, wanting to pull the plug on everything and crawl off to a Buddhist monastery until the monster tune scratching at his brain either came forward and said what it wanted from him or left him for dead.

While the house filled, Mitchell sat backstage in the green room answering questions from an editor of New South Wales's most prestigious online chiptune zine. What was the most influential mix he'd ever listened to? What would be the most important developments in the eight-bit scene over the next few weeks? If he could put only one video game soundtrack into an interplanetary spacecraft, which would it be? He could barely hear the questions over the stunning harmonic tension in his head. The stage manager had to call him twice before he heard.

Nerves almost doubled him over as he jogged out of the wings in front of a restive crowd already clapping in frenzied, synchronized downbeats. He had that sick flash of doubt: *Why do I put myself through this? I could retire to something safe, write a music blog or something.* But as soon as he got the backing tracks looping, the MSX emulator bumping, and his Amiga kicking out the MIDI jams to the principal theme from the old blockbuster game *Alternate Reality*, he remembered just what Face-to-Face was all about, and why nothing would ever replace live performance.

## SI

By the time Toshi Yukawa realized he needed help from coders beyond himself, it was too late. He'd taken too long to isolate the virus and even longer to break-point and trace the logic, trying to determine exactly what the multiple payloads meant to do to the hundreds of thousands, perhaps even millions of music players already infected. The code was so idiosyncratic and original that Toshi couldn't understand it, even as it stared him in the face. The weapon was cryptic, evanescent, awful, awesome, protean, full of fearsome intelligence and unfathomable routines: a true work of art. He isolated a sub-routine devoted to hijacking the player and beaming out music in subaudible frequencies. Yukawa didn't get it: why spend such incredible intellectual effort to take over millions of devices, just to play a tune no one could hear? That had to be just a private amusement, a warm-up act for the headline show. Yukawa dug deeper, bracing for the real mayhem. A person who could write such code could sow destruction on an operatic scale.

Then Toshi stumbled onto a portion of the initializer that made his blood run cold. It checked the host's time zone and adjusted another routine that made continuous calls to the music player's clock. A timed detonator: the code was going to launch a synchronized event to go off at a single moment across all the world's time zones. But what event? The code was inscrutable assembly language. Deleting songs at random? Scrambling the firmware or flash memory?

Yukawa logged in to the best professional discussion board for tracking the thousands of viruses, worms, Trojans, and assorted malicious code in the wild. There it was: growing chatter about something already code-named *counterpoint*. Yukawa posted his discoveries, and four hours later, one of the big boys at Norton found the trigger date for Yukawa's detonator routine. A day obvious after the fact: *counterpoint* was set to premiere on December 21, the winter solstice. The day after tomorrow.

Time had run out. In two days, many, many people were going to be walking around earbudless, their billions of dollars' worth of portable media centers bricked. Personalized music would never be safe again. People would be thrown back on singing to each other.

A South American journalist reporting on the eternal hackers' arms race had once asked Yukawa what would happen if the white hats lost. He'd laughed her off, but here it was. Toshi sat back in his Aeron chair, gazed out his window down the glens that hid the



unsuspecting venture capitalists along Sand Hill Road, and gave up. Then he did what any artist would, faced with imminent destruction: he turned back to study the beauties of the inscrutable score. He worked on without point, and all the while, unconsciously, under his breath, in the key of hopeless and exhilarating work, he hummed.

## LA

São Paulo did not help Marta Mota. In fact, the relative safety of home only worsened her earworm. It got so bad she had to take a few days' leave from *Folha*. Andre actually suggested she get help. Only the fact that several friends were also suffering from a barely audible *chiclete de ouvido* running through their minds kept her from losing hers.

More confirmation awaited her online. She turned up hundreds of posts, each one plagued by unsingable music. A reporter to the end, she traced the blind leads. She found herself in ancient backwaters, Krishna's healing flute, Ling Lun's discovery of the foundation tone, Orpheus raising the dead and animating stones, the Pythagoreans with their vibrations the length of a planetary orbit, the secret music that powered the building of the Pyramids, the horns that felled Jericho, the drumming dance of Ame no Uzume, the rain goddess, luring the sun goddess, Amaterasu Omikami, from out of hiding in the rock cave of heaven. She read about African maloya, outlawed because of its power to stir revolution. She found a fantastic article by an old Czech-American musicologist tracing the myth of sublime sound, from Ulysses, tied to the mast to hear the Sirens, through Sufi mystics, Caedmon's angel-dictated hymn, and on into songs on all continents that yearned for the lost chord. God's own court composer seemed to be baiting her for a libretto.

On the solstice, Andre was consulting in Kamchatka. Marta worked late, too wired to sleep. She drew a hot bath, trying to calm down. Her player was docked in the living room, whispering soft, late Vinicius de Moraes, one of the few human-made things capable of temporarily curing her of the human-made world. Right at a key change, the music stopped, plunging her into the night's silence. Then another tune began, one that, in four measures, lifted her bodily out of the water. She sprang from the tub and dashed into the living room, nude and dripping. By the time she reached the player, the harmonies were done.

She fiddled with the interface in a naked daze, but the tune had erased its tracks. Whatever had visited was gone faster than it came. She shut her eyes and tried to take down that sublime dictation before it faded, but could make out only vague hope, vaguer reassurance. What was left of the tune said, *Keep deep down; you'll hear me again someday*. She stood on the soaking carpet, midway between bitter and elated. The song had ended. But the melody lingered on.

## LI

Mitchell Payne was deep into a smoking rendition of *The Last Ninja* that was burning down the house when the music died. The backing track piped out by his 160 GB classic simply quit. The iPod brought down the master sequencer, which in turn crashed the Roland, a chain reaction that pretty much left Mitchell noodling away clueless on a couple of MIDI controllers in the empty air. The silence lasted no longer than it takes to change a track, an onstage eternity.

His first thought was that his old partner in crime, free4yu, had come back to wreak electronic revenge on Mitchell for walking away scot-free when their trading concession got rounded up by the federales. But before Mitchell had the presence of mind to power anything down, the iPod started up again.

The thumping audience fell silent and listened. The harmonies passed through a series of changes, each a strangely familiar surprise. Afterward, no two people described the sequence the same way. It was the weaving antiphony of a dream, the tune your immigrant nanny made you laugh with, the unsuspecting needle dropping onto a virgin *Sgt. Pepper*, a call to desert prayer, an archaic fauxbourdon, that tape you tried to make with your high school garage band, the last four measures of something amazing on the radio that you could never subsequently identify, highland temple bells, an evening sing-along, the keys you pressed chasing after your grandmother's player piano, a garbled shortwave "Happy Birthday" from the other side of the planet, a first slow dance, a hymn from back when you were just setting out on the game of consciousness, all resonance, sphinxlike, aching with possibility, a little incandescent phrase transporting all listeners back into timeless time.

That's how the world described it the next day, those who were lucky enough not to rip their buds out of their ears or fiddle with

their rebellious players. The nations' blogs resounded with endless variations on one simple theme: *OMG—did you hear that?*

The world on that day had half a billion music-capable mobile devices. If a tenth of those were infected and turned on when the tune got loose, then more people heard the ghost tune at the same time than were alive when music was first recorded into the Samsaveda. And here it was again, after an eternity away: a tune that sold nothing, that had no agenda, that required no identity or allegiance, that was not disposable background product, that came and went for no reason, brief as thunder on a summer night.

For his part, Mitchell heard the song he'd been hallucinating for the last two days. And in that instant before the crowd broke out into stunned applause, Mitchell Payne thought, *This is it—a totally new genre*. The first person to transcribe the thing was going to make a fortune. *Bow, you sucker, bow!*

## TI

The quad is dark and empty, the snow gathering. Flakes pour out of the woolen air. The sky above him is a lambent orange, scattering the lights of the town. Jan Steiner takes the long diagonal path toward the neoclassical English building. The phantom tune still nags at him. The harmonies take an amazing turn, he calls out in surprise, his foot slips on the icy walk, and he slams to the pavement. Hot current shoots through his brain. Pain such as he has never felt tears up the fuse of his spine and he blacks out.

When he comes to, he feels nothing. Some part of him understands: shock. He tries to stand but can't. His right thigh comes through his hip in a way that it shouldn't. The front part of his pelvis is as powdered as the snow.

He lies on his back, paralyzed, looking up into the rust of night. He calls out, but his voice doesn't carry much beyond the globe of his body's warmth. He always was a feeble little tenor, even in the prime of life. Those who can't sing, teach.

He rolls his head to the left, the empty Colonial anthropology building. He rolls to the right, the abandoned Brutalist auditorium. He can't see past his body to the music building, with the seven names on its confident pediment. Winter's first night. The college is closed, evacuated for the holidays. He'll lie here until morning, undiscovered. The temperature is falling and the pain starts a vast,

slow crescendo. He can't imagine how the piece will end.

He's amazed that this fate has been lying in wait his entire life. He looks up into snowy emptiness, recalling the words of the stunned Mozart, when the natives in provincial Leipzig forced him to listen to their old Capellmeister's archaic motet they'd kept alive like some forgotten relic: *What is this? Here at last is something one can learn from*.

Then he remembers: invasion of the pod phone players. By a mighty effort of will, he manages to crane his shattered right hand around into his coat pocket. He shovels the device out onto the pavement in little Lego pieces. No saving call. Not even a diverting tune while waiting to go numb.

He inserts the buds anyway, to keep the warmth from leaking out his ears. World's smallest earmuffs. Snow is falling on the wool of his coat and his cotton cap. Snow falling on concrete, on frozen earth, freezing skin, snow on snow. In the hush, his ears sharpen. Through the dead buds, he hears the crushed device whisper a vast and silent fantasia: the wired world recovering a theme it long ago misplaced.

He lies still in the ravishing dark, listening to a need as big as lust or hunger, an urge with no reason on earth ever to have evolved. The only fundamental human pleasure with no survival value whatsoever: Music. . . .

*Ah, music for a while,  
will all your cares beguile.*

A few measures more, and the cold returns him to Do.