FRACTALS
(or: Reagan Assured Gorbachev of Help Against Space Aliens)\textsuperscript{1}

Trespassing? *Trespassing*? You arrogant slant-eyed alien motherfucker, I used to *live* here!

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How long have I wanted to do that? How many years have I hated them, dreamt that my fists were smashing those faces into shapes even less human? I can't remember. The anger is chronic. The anger has always been chronic. And impotent, until now. The pain in my knuckles throbs like a distant badge of honour.

It's cold.

The rage is gone, absorbed somehow by the mud and the unlit piles of lumber and masonry scattered around me. I can barely focus on my surroundings. The shapes keep changing, hulking angular monstrosities shifting on all sides. Only the sign at the front of the lot, the sign he kept pointing at, refuses to move.

I can barely see him in the dark. He's just a few meters away, but the shadows are so *black* and he doesn't move at all. What if I killed him? What if I—

There. He moved a bit. It's okay, I didn't kill him, he's not dead—

Yet. What if he dies here in the mud?
(So what if he does? Lots more where he came from.)

No. I don't mean that. I can't believe I ever did, I mean, what if I, what if he dies here, what if—

What if he lives, and identifies me?

\textsuperscript{1} First published in *On Spec* 7(1), 1995: 31-41.
A couple of steps forward. A couple more. Okay, he was about here when he saw me, and then he moved over there and started shouting—

He couldn't have seen my face. Even when he came closer, it's so dark he'd only have seen a silhouette, and then he was right in front of me and—

I can get away. I can get away. Oh Jesus God I can't believe I did this—

Okay. This is a construction site, after all; my car will only leave one set of tracks in a muddle of hundreds. And the nearest house is over a block away, this whole end of the road is unlit. Lucky me: no witnesses.

The car starts smoothly, without a moment's hesitation. I descend toward the city.

It was as though I had planned it all, somehow. In a way I feel as though I've been rehearsing this forever. I have been purged. It's such a relief not to burn, to unclench my teeth, to feel the hard knot of tension in my stomach easing away. Somehow, I'm free. Not happy, perhaps. But I have acted, at last, from the heart, and in some strange way I'm finally at peace.

(What if he dies up there?)

I'll stop at the next phone booth. Ambulances respond to anonymous tips, don't they? In the meantime, I've got to be careful to keep my shoes on the mudmat. Just in case. Joanne might still be awake when I get home. I'll stop off at a gas station and rinse everything clean on the way.

* * *

It's a nice window; nice scenery. I've always liked forests, though I've never seen so many squirrels and deer and birds crammed into such a small area before. But hey, who am I to complain about realism, I'm twenty floors over Robson Street looking out at a rainforest so why worry about details? Besides,
it's not a rainforest any more. It's an alpine meadow. She touches a button on the windowsill and the whole world changes.

I walk across the room; rocks and heather come into view, cross the window, fall into eclipse at the other side. I move closer and the field of view expands. Nose against glass I can see one hundred and eighty, three-dimensional degrees along all axes. Just outside, an explosion of flowers stirs in a sudden breeze.

But now she fingers a switch and the world stops, there's no window at all any more, just a flat grey screen and a fake window sill.

"That's incredible," I say, distantly amazed.

She can't quite keep the pride out of her voice. "It's a breakthrough all right. There are other flat monitors around, but you can see the difference."

"How do you do it? Is this some sort of 3-d videotape or something?"

Her smile widens. "Not even close. We use fractals."

"Fractals."

"You know, those psychedelic patterns you see on calendars and computer posters."

Right. Something to do with chaos theory. "But what exactly are—"

She laughs. "Actually, I just demonstrate the stuff. We got a guy at the university to hack the software for us, he'd be able to tell you the details. If you think your readers would be interested."

"I'm interested. If I can't get them interested too I'm not much of a journalist, am I?"

"Well then, let me give you his name," she says. "I'll tell him to expect you. He should be able to set something up within the next week or so."
She jots a name on the back of her card and hands it to me. Roy Cheung, it says. I feel a sudden brief constriction in my throat.

"One last question," I say to her. "Who's going to be able to afford something like this?"

"Bottom-line models will retail at around thirty thousand," she tells me. "A lot of businesses want to hang one in their lobbies and so forth. And we also hope to sell to upper income individuals."

"If you can find any nowadays."

"You'd be surprised, actually. Since the Hong Kong influx started there's been a real surge in the number of people who can afford this sort of product."

You poor dear. You haven't done your market research, have you? Or you'd know exactly what your wealthy clientele think of nature. It's abstract art to them. There probably isn't a blade of grass left in all of Hong Kong. Most of those people wouldn't know what a tree was if one grew through their penthouse windows and spat oxygen all over the walls.

No matter. In another few years, neither will we.

* * *

"Emergency Admissions."

"Uh, yes. I was wondering if you've had—if there was an assault victim admitted over the past day or so."

"I'm sorry sir, you'll have to be more specific. Assault victim?"

"Yes, um, has someone been admitted suffering head injuries, an oriental—"

"Why?" The voice acquires a sudden sharp edge. "Do you know something about an unreported assault?"

"Uh—" Hang up, you idiot! This isn't getting you anywhere! "Actually, it must have been reported, they were loading him
into an ambulance. He looked pretty bad, I was just wondering how he was doing."

Yeah. Right. Very credible.
"I see. And where did this happen?"
"North Van. Up around, um, Cumberland I think."
"And I don't suppose you know the name of the victim?"
"Uh no, like I said I just saw them taking him away, I was just wondering—"
"That's very...kind of you, sir," ahe says. "But we're not allowed to disclose such information except to family—"

Jesus Christ, woman, I just want to find out how he's doing I'm not interested in stealing national secrets for Chrissake! "I understand that, but—"

"And in any event, nobody answering your description has been admitted to this hospital. Cumberland, you said?"

Maybe they're tracing the call. It would make sense, maybe they've got a standing trace on emergency hospital lines, I bet a lot of people do what I'm doing, I bet—
"Sir? You said Cumberland?"

I disconnect.

* * *

Joanne stirs as I slip into the darkened bedroom. "Anything interesting on the news?"
"Not really." No reports of unknown assailants on the north shore, anyway. That's probably just as well. Wouldn't a dead body at least warrant mention?

I feel my way to the bed and climb in. "Oh, The Musqueam Indians are planning this massive demonstration over land claims. Roadblocks and everything." I mould myself against Joanne's back.
"They must hate our guts," I say into her nape.

She turns around to face me. "Who? The Musqueam?"
"They must. I would."
She makes a wry sound. "No offense, lover, but I'd be very worried if too many other people thought the way you did."

I've learned to take such remarks as compliments, although that's almost never the way she means them. "Well, if getting home and culture stolen out from under you isn't grounds for hatred, I don't know what is." I hold back a moment, decide to risk it. "I wonder if that makes them racists."

"Ooh. Shame on you." She wags a finger that I can barely make out in the darkness. "*Victims* of racism can't possibly be guilty of racism. Why, you'd have to be a racist to even suggest such a thing. Excuse me while I call the Human Rights Commission." Instead, she kisses me. "Actually, I'm too tired. I'll let you off with a warning. G'night." She settles down with her back to me.

But I don't want to sleep, not yet. There are things I have to say aloud, things I can't even think about without invoking some subtle, chronic dread. I don't like keeping things from Joanne. Three days now and the silence spreads through me like gangrene.

But I can't tell her. It could ruin everything. How much am I supposed to gamble on the hope she'd grant absolution?

"I saw some graffitti today on Denman," I try aloud. "It said *White man out of Vancouver. Canada now for Asian Peoples.*"

Her back moves in a gentle respiratory rhythm. She mumbles something into her pillow.

I ask: "What did you say?"

"I said, there's assholes on all sides. Go to sleep."

"Maybe it's true."

She groans, defeated: if she wants any sleep tonight she'll have to hear me out. "What's true?" she sighs.

"Maybe there isn't room for all of us. I was on the bus today, it was full of all these Chinese and I couldn't understand what any of them were saying—"

"Don't sweat it. They probably weren't talking to you."
No, I want to say, they don't have to. We don't matter to them. Our quaint values and esthetics can be bought as easily as the North Shore. Don't I have a right to be afraid of that? Can't we fear for our own way of life without being racist? Aren't we even allowed to—

—beat the fuckers to death with our bare hands—

There's something else here.

It's lying in the dark between us and it's invisible, Joanne could roll over right now and she wouldn't see it any more than I can, but somehow I know it's looking right at me and grinning...

Joanne sits up without a word. It's as though my own inadvertent thoughts have triggered her. She turns to look at me, she leans right through the thing between us without even pausing, her face breaks through that invisible grin and replaces it with one of her own.

"If you wasn't livin' with a black woman," she says in her best Aunt Jemima drawl, "I'd say you was sho' nuff a racist honky sumbitch." She nips me on the nose. "As it is, I think you just need a good night's sleep." She settles back down with one arm draped over my chest.

We're alone again. In the next room, Sean coughs softly in her sleep.

My knuckles sting with faint remembrance.

I wonder if he had a family.

Whoever you were. I'm—

—sorry—

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It's almost time to meet Roy Cheung. For two hours now I've been wandering downtown streets, watching morning traffic congeal in thin slushy snow. I've been counting invaders. They hurry past the rest of us, mixed but not mixing, heads down against the chill of this alien climate. Sometimes they speak to
each other. Sometimes they even use our language. More often they say nothing at all.

They never look at me.

I didn't always feel this way. I'm almost sure of it. There was a time when we were all just people, and I knew exactly what racism looked like: it drove a Ford pickup with a gun rack in the rear window. It threw beer bottles out the window at stop signs, and it didn't think; it gibbered.

But now statistics and xenophobia are in bed together. Every day the planes touch down and the balance shifts a little more. Asian wealth rises around us, flashing invisibly bank-to-bank, ricocheting down from comsats high over the Pacific rim. Burying us. Who wouldn't be afraid? My whole world is listing to the east.

But nobody taught me to hate like this. It just happened.

Is this what it's like to discover you're a werewolf?

* * *

There's a poster commemorating the 1995 International Computer Graphics Conference hanging on one wall of Roy Cheung's office. Below it, a transistor radio emits country and western; it's partially eclipsed by a huge, luxuriant Boston fern in a hanging pot. I wonder how he does it. Every time I buy one of those bloody plants it's dead within a week.

His desk is barely visible under a mass of printouts and the biggest colour monitor I've ever seen. There is a spiral galaxy rotating on the screen. It seems to be made of iridescent soap bubbles, each arranged with unimaginable precision.

"That," says Cheung, "is a fractal. Beautiful, isn't it?"

He speaks without a trace of accent. He sounds just like I do.

Cheung sits down at the keyboard. "Watch closely. I'm increasing the magnification so we're only looking at one of these nodes. One star in the galaxy, if you will."
The image blurs, then refocusses. There is a spiral galaxy rotating on the screen.

"That's the same image," I say.

"Not quite. There are a number of differences, but overall it's pretty similar. Except, like I said, we're only looking at one star in the galaxy."

"But that's a whole—"

"Now let's zoom in on a single star in this galaxy."

There is a spiral galaxy rotating on the screen.

Something clicks. "Isn't this what you call infinite regression?"

He nods. "Actually, the term is scale-invariance. You can look at this thing with a microscope or a telescope, it doesn't matter; at every scale, the pattern is essentially the same."

"So at what scale do we get the nature scenes?" There isn't the slightest hint of tension in my voice. I even smile.

"All of them. This fractal comes from a very simple equation; the trick is it keeps repeating itself. Uses the output from one iteration as the input for the next. You don't have to store a complete image at all. You just store a few equations and let the computer draw the picture step-by-step. You get incredibly detailed output with hardly any memory cost."

"You're saying you can duplicate nature on a screen with a bunch of simple equations?"

"No. I'm saying nature is a bunch of simple equations."

"Prove it," I tell him, still smiling. For an instant I see him shrouded in darkness, arms thrown up in a vain attempt to ward off judgment, face bleeding and pulpy.

I shake my head to dislodge the image. It sticks.

"—shape of a tree," he's saying. "The trunk splits into branches. Then the branches split into smaller branches. Then those divide into twigs. And at each scale, the pattern is the same."

I imagine a tree. It doesn't seem very mathematical.
"Or your own lungs," Cheung continues. "Windpipe to bronchi to bronchioles to alveoli. Or your circulatory system. Or the growth of a crystal. Incrementally simple, the same thing happening at a dozen different scales simultaneously."

"So you're saying trees are fractal? Crystals are fractal?"

He shakes his head, grinning from ear to ear. "Nature is fractal. Life is fractal. You're fractal." He wears the look of a religious convert. "And the image compression stuff is nothing. There are implications for meteorology, or—wait a second, let me show you what I'm working on for the medical centre."

I wait while Cheung fiddles with his machine. Voices from his radio fill the lull. A phone-in show; some woman is complaining to the host about a three-car pile-up in her front yard. Her neighbour up the hill used a garden hose to wash the snow off his driveway this morning; the water slid downhill and froze the road into a skating rink, tilted twenty degrees.

"They come in from Hong Kong, they think the climate is just the same the world over," the caller complains.

The host doesn't say anything. How can he? How can he sympathise without being branded a racist? Maybe he will anyway. Maybe he'll call a spade a spade, maybe the editors and the censors haven't quite crushed him yet. Go for it, asshole, it's what we're all thinking, why don't you just say it—"

"What an idiot," Roy Cheung remarks.

I blink. "What?"

"That's actually pretty minor," he tells me. "That's just some moron who never saw ice outside of a scotch on the rocks. We've got these neighbours, a whole bloody family came over from Hong Kong a couple of years back and we've had nothing but trouble. Last summer they cut down our hedge."

"What?" It's very strange, hearing Cheung betray his own kind like this.

"My wife's into horticulture, she'd spent ages growing this hedge on our property. It was gorgeous, about fifteen feet high,
perfectly sculpted. Came home one day and these guys had paid someone to come over and chainsaw the whole thing. Said the hedge was a home for evil spirits."

"Didn't you sue them or something?"

Cheung shrugs. "I wanted too. Lana wouldn't let me. She didn't want any more trouble. You ask me, I'd gladly ship the whole lot of 'em back overseas."

I collect my thoughts. "But didn't you, um, come from—"

"Born here. Fifth generation," he says.

I'm only third.

And suddenly I recognise the kinship behind those strange eyes, the shared resentment. How must it feel to go through life wearing that skin, that hair, these artifacts of a heritage left behind decades ago? Roy Cheung, guilty by association, probably hates them more than I do. He's almost an ally.

"Anyway," he says, "here's what I wanted to show you."

The moment passes. There is something new on the monitor, something reddish and amorphous and somehow threatening. It's growing; a misshapen blob, sprouting random pseudopods, covers half the screen.

"What's that?" I ask.

"Carcinoma."

It doesn't surprise me.

"Cancer is fractal too," Cheung says. "This is a model of a liver tumour, but the growth patterns are the same no matter what kind you're talking about. We're finding out how it grows; you gotta know that before you can kill it."

I watch it spread.

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Baboons. There are baboons running around in our TV, courtesy of National Geographic and PBS. We more civilized primates sit and watch at a discreet distance. Sean, hyperactively four, bounces around on the carpet; Joanne and I
opt for the couch. We peer over a coffee table laden with Szechuan take-out, into what's left of the real world.

There's just been a treetop coup somewhere in the forests of central Africa; a new alpha male struts around. He goes through the troop, checking out the females, checking out their kids. Especially the kids. He goes to each one in turn, running his big hairy hand over their heads, sniffing their bodies with that gentle paternalism, looking for some sign of familiarity, some telltale scent that speaks of his ancestry in those tiny bodies—but no, none of my genes in this one, and WHAP the infant's head snaps back and forth like a bolo-ball and SNAP those matchstick arms bend in entirely new places and the Big Man on Campus tears the little carcass away from its screaming mother and pitches it out, out and down to the forest floor twenty meters below.

Sean is suddenly entranced. Joanne looks at me doubtfully. "I don't know if we really want to be watching this during, er, mealtime..."

But life isn't always so intolerant, the narrator hastens to tell us. That same male would die defending those bastard children against an outside threat, against a predator or a rival troop, against anything that was less related to him than they were. Loyalties are concentric. Defend your kind against others. Defend your kin against your kind. Defend your genes against your kin. In absence of the greater threat, destroy the lesser.

And suddenly, with an almost audible click, the whole world drops into focus. I look around, surprised; nobody else seems to have noticed the change. On the surface, nothing has changed. My family is blissfully unaware of the epiphany that has just occurred.

But I understand something now. It wasn't really my fault.

Go down far enough, and we're all running the same program. Each cell holds the complete design; the framework, the plumbing, the wiring diagrams, all jammed into a spiral thread of sugars and bases that tells us what to be. What blind stupid
arrogance, to think that a few campfire songs could undo four million years of evolution. *Morally wrong*, we chant; *politically incorrect, socially unacceptable*. But our genes aren't fooled. They're so much wiser than we are. They know: we have met the enemy, and he is *not* us. Evolution, ever patient, inspires us to self-defense.

My enmity is hardwired. Am I to blame if the plan calls for something that hates?

* * *

What's this? They've changed the bait again?

It can't be an easy job, trying to bribe us into literacy. Each week they put a new display in the lobby, easily visible through the glass to passers-by, some colourful new production meant to lure the great unwashed into the library.

Wasted on me; I'm in here for something else entirely. Although, what the hell, the newspaper section doesn't close for hours. And today's offering is a tad more colourful than usual. Let's see...

A crayon drawing of crude stick figures, red and yellow, black and white, holding hands in a ring. Posters, professionally crafted but no less blatant, showing Chinese and Caucasians wearing hard hats and smiling at each other. The air is thick with sugary sweetness and light; I feel the first stirrings of diabetes.

I move closer to the display. A sign, prominently displayed: "Sponsored by the B.C. Human Rights Commission".

They know. They have their polls, their barometers, they can feel the backlash building and they're fighting it any way they can.

I wander the exhibit. I feel a bit like a vampire at church. But the symbols here are weak; the garlic and the holy signs have an air of desperation about them. They're losing, and they know it. This feeble propaganda can't change how we feel.
Besides, why should they care what we think? In another few years we won't matter any more.

There's a newspaper clipping tacked up on one corner of the nearest board. From an old 1986 edition of the Globe and Mail: "Reagan Assured Gorbachev of Help Against Space Aliens", the headline says.

Is this for real?

Yes indeed. Then-president Reagan, briefly inspired, actually told Gorbachev that if the Earth were ever threatened by aliens, all countries would pull together and forget their ideological differences. Apparently he thought there was a moral there somewhere.

"One of the few intelligent things Reagan ever said," someone says at my elbow. I turn. She's overdressed; wears a BC government pin on one lapel and a button on the other. The button shows planet Earth encircled by the words "We're all in this together".

But at least she's one of us.

"But he was right," I reply. "Threaten the whole human race and our international squabbling seems so petty."

She nods, smiling. "That's why I put it up. It's not really part of the presentation, but I thought it fit."

"Of course, we don't have space aliens to hate. But not to worry. There's always an enemy, somewhere."

Her smile falters a bit. "What do you mean?"

"If not space aliens, the Russians. If not the Russians, the local ethnics. I stayed on an island once where the lobstermen on the south end all hated the herring fishermen on the north. They all seemed the same to me, a lot of them were even related, but they had to be able to hate someone somewhere."

She clucks and shakes her head in cynical accord.

"Of course, both sides banded together to hate all off-islanders," I add.

"Of course."
"A single human being, the whole damn species, or any level in between, and the pattern's the same, isn't it? It's like hatred is —"

I see galaxies within galaxies.
"—scale-invariant," I finish slowly.
She looks at me, a bit strangely. "Uh—"
"But of course, there are also a lot of positive things happening. People can co-operate when they have to."
Her smile reinflates. "Exactly."
"Like the natives. Banding together to save their cultures, forgetting their differences. The Haidas even stopped taking slaves from other tribes."
She isn't smiling at all now. "The Haida," she says, "haven't taken slaves for generations."
"Oh, that's right. We put a stop to that about—I guess it was even before we banned the potlatch, wasn't it? But eventually they'll want to start up again. I mean, slavery was integral to their culture, and we simply must protect the integrity of everyone's culture here, mustn't we?"
"I don't think you've got all your facts straight," she says slowly.
"Oh, I'm sorry. I thought we were multicultural. I thought Canadians were supposed to—" I spy some bold print a few boards down— "to allow different cultures to flourish side by side without imposing our own moral and ethical standards on them."
"Within the law," she says. I wait, but she's wary now, unwilling to speak further.
So I do. "Then as a woman, I'm sure you're pleased that Muslim men won't have to stop the traditional subjugation of their wives when they come here. As long as they keep it in the home, of course."
"Excuse me." She turns her back to me, takes a step along the display.
"You're lying to us," I say, raising my voice. A couple of bystanders turn their heads.

She faces me, mouth open to speak. I pre-empt her: "Or perhaps you're lying to them. But you can't have it both ways, and you can't change the facts no matter how many bad classroom cartoons you force on us."

There's a part of me that hasn't enjoyed provoking the anger in her face. A few days ago, it might even have been the biggest part. But it's only a few thousand years old, tops, and the rest of me really doesn't give a shit.

I lift my arm in a gesture that takes in the whole display. "If I were a racist," I tell her, "this wouldn't begin to convince me."

I bare my teeth in a way that might be mistaken for a smile. I turn and walk deeper into the building.

* * *

Here it is: on the back page of Section C, in a newspaper almost two weeks old. Didn't even make it to the airwaves, I guess. What difference does one more battered Asian make, after all the gang warfare going down in Chinatown? No wonder I missed it.

He had a name. Wai Chan. Found unconscious at a North Van housing development owned by Balthree Properties, where he was—

(Balthree Properties? They're local, aren't they?)

—where he was employed as a night watchman. In stable condition after being attacked by an unknown assailant. No motive. No suspects.

Bullshit. Half the fucking city is suspect, we've all got motive, and they know it.

Or maybe they don't. Maybe they believe all the stories they feed us that say Hey, High-Density Living Good For You, Crime Rate Unconnected To Population Size, Massive
Immigration Keeps Us Safe From America, hurrah hurrah! Nothing like giving yourself a mild case of cancer to cure the measles, and every time somebody projects that the lower mainland will be sixty percent Chinese by 2010 the news is buried in a wave of stories about international goodwill and the cultural mosaic. Maybe they don't know what it's like to go back to the place you grew up and find it ripped to the ground, some offshore conglomerate's turned it into another hive crammed with pulsing yellow grubs, perhaps Balthree Properties isn't run out of Hong Kong after all but I didn't know that then, did I? That used to be my home, there were trees there once, and childhood friends, and now just mud and lumber and this ugly little Chink yammering at me, barely even speaks the fucking language and he's kicking me out of my own back yard

Once I felt guilty about what I did to him. I was sick with remorse. That was stupid, woolly thinking. My guilt doesn't spring from the one time I let the monster out. No sirree.

It springs from all the other times I didn't.

* * *

The Indians are on the warpath. From the endowment lands on east, they're blocking us. We're on their land, they say. They want justice. They want retribution. They want autonomy.

Don't tell me, noble savage. So do I.

Traffic moves nose-to-bumper like a procession of slugs. At this rate it'll be hours before I even get out of town, let alone home. There was a time when I could afford to live in town. There was even a time when I wanted to. Now, all I want to do is scream.

There's a group of Indian kids at the roadside, enjoying the chaos their parents have wrought. I bear them no ill will; the natives are a conquered people, drunk and unemployed, no threat to anyone. I sympathise. I honk my horn in support.
Thunk! A spiderweb explodes across my windshield, glassy cracks dividing and redividing into a network too fine to for my eyes to follow, I can barely see through—

Jesus! That sonofabitch threw a rock at me! There he is, winding up for another—no, he's after someone else this time, our ancestors weren't nice to their ancestors and this brat thinks that gives him some god-given moral right to trash other people's property—

I don't have to take this. I didn't take their fucking land away from them. Get off to the side, onto the shoulder—now floor it! Watch the skid, watch the skid—and look at those punks scrambling out of the way! One of them isn't quite fast enough; catches my eye as he rolls off the hood, and holy shit did his sneer vanish in a hurry! I do believe he already regrets the rashness of his actions, and we've barely started dancing yet.

I turn off the ignition. I pocket the keys.
I get out of the car.
There are people shouting somewhere very far away, and horns honking. They sound almost the same. Someone gets up off the pavement in front of me, nursing his leg. He doesn't look so tough now, does he? Like it's just dawned on him that they lost Oka years ago. Where did all your friends go, fucker? Where's Lasagna when you need him?

Okay, you want to wail about oppression? I'll show you oppression, you greasy Indian brat. I'm going to teach you a lesson you won't ever forget.

My muscles are knotted so tightly I wonder why my own ligaments haven't been torn out at the roots. I'm dimly aware that this is more or less normal for me now.
But I know that I'll feel better soon.