NICK MAMATAS

THE TWIN DRAGONS OF SENTIMENTALITY AND DIDACTICISM

“Look,” Osvaldo Iglesias said to the journalist, gesturing with the gecko in his hand. “Biomimicry is stupid.” Then he muttered, “Watch this—this is what you’re here for. Don’t blink!” and threw the gecko down the pipe at the whirling fan blades below. The gecko flailed in midair like a plastic bag in a gale, spiraled toward the cylindrical wall, and finally anchored itself via the setae in its footpads to a spot several feet up from the fan.

“Whoa, that was…can you do that again?”

“I told you not to blink.”

“Heh,” the journalist said. “I thought you were talking to the gecko.” Iglesias glared. “You know, to be funny.”

“Geckos can’t blink,” Iglesias said. “No eyelids.”

“Right.” The journalist made a note on his phone. “Anyway…biomimicry is stupid?”

“Yes, and you know it is. You already know it. Ever see old movies of ornithopters?”

“I’m not actually a tech journalist,” the journalist said. “My beat is just local universities and education. I’m here because of the animal—”

“The animal rights people, yeah. An ornithopter is a flying machine that works by flapping its wings, like a bird. Ever taken a ride on one?”

“Of course not. They don’t work.”

“Of course they do work, sirrah,” Iglesias said. “Just not very well, nor very often. Because they’re stupid. It makes much more sense to stick with fixed-wing aircraft for a variety of technological, safety, and economic reasons. Ornithopters are an example of biomimicry. What you should be interested in is bioinspiration. That’s the future of robotics.”

The journalist started to say Did you just call me sirr— but swallowed the question. “What I am actually interested in is how many geckos you’ve killed by throwing them into fan blades,” the journalist said.

“None, yet.”

“Yet.”

“Gecko footpads are amazing. They don’t excrete a chemical adhesive; it’s a matter of van der Waals interaction,” Iglesias said. “They always save themselves. At least, so far they have.”

“I read the Wikipedia article on geckos,” the journalist said.

“I’ve had to rewrite the section on gecko adhesive abilities several times,” Iglesias said.

“What are you really doing with the geckos, if not looking to mimic their adhesive abilities?”

“I’m looking to understand them, so we can be inspired. Think about what cheap non-chemical adhesives might mean.” Iglesias gestured to his whiteboard, as if it would make any sense to the journalist. “I’m not going to manufacture gecko shoes and gloves and climb up walls, but you know, think. Do you use Post-it notes? Ever have to go to the ER and get stitches? Turn a screw? You ever own a book so old that when you opened it up the pages spilled onto your lap? A self-cleaning dry adhesive can change everything. And you’re worried about geckos hitting the fan?” Iglesias turned around, and collected the gecko who had just mounted the lip of the pipe into which he’d been thrown.

“I’m not worried,” the journalist said. “I’m reporting. There have been threats against the lab. Animal liberation extremists.” Iglesias just peered at the journalist. “Do you have a comment on that?”

“Uhm…what do they think the adhesives this technology will one day replace are made of? Horse hooves and fish guts, largely. Anyway, I’m very busy. Do you have all the quotes you need?”

“Yes, that should do it,” the journalist said. “Thanks for your time, Osvaldo.”

Iglesias grunted; he already had a gecko in each hand. The journalist let himself out of the lab before the next round.

An extended anecdotal lede began forming in the journalist’s mind as he walked through the quad to his car. Would his editor let him get away with something from the gecko’s point of view? Maybe the gecko’s POV by one remove: Imagine being a gecko, living your gecko life, licking your eyes clean, eating flies. Then one day you’re snatched up and flung…

Which is what immediately happened to him as a trio of black-clad figures, their faces obscured of balaclavas, emerged from the shrubbery, seized him by the limbs, threw him to the ground, and smothered his shouting with a chloroform-soaked rag.

Consciousness returned fairly quickly to the journalist, who found himself tied to a concrete pillar in the basement of some sort of industrial facility. He remembered a peculiar class exercise as an undergrad. Mid-lecture, two men in masks had stormed into the room and brandished guns. The journalist made eye contact with one of them and thought: Blue. Blue eyes. And he's old. You have to remember this! The professor stood up. The intruders leveled their guns—they were toys! "Bang, bang!" the intruders said, and the professor fell comically to the floor, clutching his chest as if shot, and bellowed "Long live free Albania!" Then he popped back up as the intruders excused themselves and demanded that the class write down what they had just witnessed. The resulting accounts…varied.

It was the sort of object lesson that could only be experienced prior to the events of 9/11. But it came in handy now. The journalist looked around. The place was bare, so it was probably not a headquarters. There weren't even seats available, so this would likely not be a long interrogation, or an extensive torture session. The three figures wore matching black sweaters, jeans, and sneakers. They were in shape, all probably male, their poses confident.

"People are animals…" said the journalist. "Don't hurt me."

"What?" the figure in the middle said.

"It makes no sense to hurt people if you want to save animals," the journalist said. "People are animals, aren't they? Look, I was at the lab, but only briefly…" He stopped, realizing he shouldn't give anything away. His captors were letting him talk himself into a hole.

The figure on the left whispered into the ear of the one in the middle. "Oh, right," said the one in the middle to the journalist. "We're…we're not the animal rights people."

"We're biomimickists," said the figure on the left.

"I heard biomimicry was stupid," said the journalist. Keep them talking; they seemed a bit in over their heads. Listen for details, accents, minute disagreements between them.

Behind his mask, the one who identified the group as biomimickists twitched. "It's not stupid. If anything, bioinspiration is stupid."

The man in the middle, who seemed to hold a leadership position at least tenuously, explained, “It’s a contentious debate, but even bioinspirationists recognize biomimickry as an essential first step. But to put it simply, it is true that evolution is contingent and parsimonious—evolution satisfices rather than optimizes. But so too does guided experimentation and design.”

“Yes,” said the one on the left. “Nobody in the academy, or industry, is optimizing anything. It’s all a matter of funding, the limitations of research questions salespersonship—”

“Personship? You're graduate students, aren’t you?” the journalist said.

“Natural experiments happen simultaneously and serially, millions or billions of times a day. You’re an experiment in Homo sapien sapien design, sir, one of seven billion occurring right now. No human mind, no lab, can compete with the sheer amount of data being generated by life itself. Our interest is in gathering as much of that data as we can and using it to inform practical automata based closely on animals.” said the middle figure. “And yes. We are graduate students. We need to know what is going on in the Iglesias lab, and we’ve been barred from entering it.” He shrugged. “You know, politics.”

“I was only there for an hour,” the journalist said. “And I’m a layperson”—the left figure snorted—“so what would you even expect me to know, or tell you, that you wouldn’t see in my article?” In response, the center figure nodded toward the confederate on the right.

“I’m a hypnotist,” said the one on the right. “You will not be harmed.”

“You may not be harmed, if you cooperate,” said the one in the middle, an edge in his voice.

“No, if you cooperate, you’ll not be harmed,” said the one on the left, a bit too quickly.

“What do you even want from me?” the journalist said. “Hell, why not kidnap Iglesias and hypnotize him!”

“We tried,” said the center figure as the one on the right held his hand aloft. In it he clutched a disc that generated oscillating waves of light. “He has a transparent membrane over his eyes,” the leader said. “Like a gecko’s.” The journalist’s eyes filled with stars.

It was only fifteen years later when the journalist experienced a significant stroke and was rendered largely paralyzed, that he remembered the details of his brief capture, though what he was asked and how he was released remained lost to memory. “The

journalist” wasn’t quite the right term for the man anymore—even college campuses hadn’t employed writers for their PR organs in years. Things had changed. First had come the major mechanimals: robotic elephants, and safaris that allowed tourists to hunt them down and keep them wound via the gigantic if purely decorative keys on their backs. As the animals died off, they were replaced, but not in the order in which the ecosystem was collapsing. The big ones were rolled out first, like cars used to be. Tigers and orangutans and wildebeests and great golden bears, those last beloved of Silicon Valley. Every seven-year-old scion of a techie family rode one to school. The bulletproof golden bears could eat rampage shooters, it was believed, though this feature was never widely tested in the field.

Only later came microdrones in the shape of perfect dragonflies and hummingbirds, then deer ticks. They worked in subtle swarms, their microsensors recording sight and sound, and even collecting and analyzing the molecules sensed by human olfactory and gustatory systems. All that was knowable was soon known, at least by some, and they used that information to multifarious ends. Nations fell. The economy collapsed, then harmonized. The average workday shrunk to four four-hour days, and much of that was spent on various personal WiFi-capable devices, buying shoes and trading quips and whatnot.

Then the ticks started infecting real animals, real people. One of the last professional acts of the journalist before forced into retirement by politico-economic forces he could barely comprehend was the coining of the term “Lymewire Disease”—a joke dependent on what was even then an aging reference—for the spread of Borrelia burgdorferi, which the micromechanicals carried more successfully than their organic predecessors due largely to their capacity to capture odor molecules and taste solutes. The microscopic pouches in which the mechticks seized the molecules were also breeding grounds for Lyme bacteria. Though lacking the ability to lower human resistance to B. burgdorferi spirochetes as organic deer ticks did, mechticks were so much better at evading detection than organics that their targets were repeatedly exposed to the bacteria, and infection was concomitantly more likely.

The journalist was an old man now, and suffered from Lymewire Disease, which was dramatic irony enough for him. And then, after his stroke—due to cerebral vasculitis caused by Lyme neuroborreliosis—well, he was upset as he was inarticulate. He was fetched by a Ganza, a peculiar aerial swing powered by a flock of automaton geese as in the famed early novel The Man in the Moone by Francis Godwin, and deposited in a hospital to be, if not rehabilitated, at least kept alive so that he could keep sequestering carbon and thus help mitigate climate change.

The questions came flooding back.

Did Iglesias say anything in particular about his dry adhesive, its formulation or composition?

Did he show you or demonstrate any test substances or refer to extant test substances?

Did he mention any articles or other writing he was working on that were currently under submission or that have received peer reviews?

No. No. No. Even in his compliant state, the journalist felt himself growing annoyed. These biomimickists were as combative as Iglesias. Finally, there was a hit:

Did you observe any loose papers, formulae or equations on a whiteboard, or texts on a computer monitor?

Yes.

Much of it his captors already knew.

Sure, (C2H6OSi)n. Naturally.

Of course, slanted microwedges no more than 100 μm tall. Kid stuff.

Did you see anything else?

(C60-Ih)[5,6]fullerene

Oh my!

Injecting polydimethylsiloxane into buckminsterfullerene—the silicone filling the empty spaces within the truncated icosahedron structure, very clever. Soot sticks to things, like the faces of tiny coalmining children in Dickensian England.

Anything else?

The journalist remembered now straining against his bonds, poking at the air with his nose. He even wanted to help, and the biomimickists weren’t letting him. Finally, the hypnotist recommended freeing his arms and giving him a phone on which to type or draw.

And this is what the journalist drew:

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“Snowshoes!” is what the middle figure, the leader, said, when he saw the pattern. Dry and sticky buckyballs, stuffed not quite to overflowing with a silicone so that the carbon vertices of the buckyball would roll, and arranged in a snowshoe lattice for optimizing rotational freedom. Well, that was very clever indeed.

“We need never turn a screw again.” And with that, the journalist was given a command to forget and left to live his life. It was a strong command indeed; the journalist barely reacted emotionally when a week later the Iglesias lab burst into flames and burnt to the ground in less than twenty minutes. The animal liberation people were better arsonists than fugitives. They were captured right away and confessed to the police immediately.

The rehab dog the journalist was given was unnervingly realistic. It even pissed and occasionally ran in tight circles, snapping at its own tail when the speech-language pathologist entered the room. The therapist forced the journalist to name the dog “Kazzie” to improve the journalist’s ability to utter voiceless velar stops and voiced lingua-alveolar fricatives. Luckily, the dog answered to “ghuh-thzuh” to the extent that it responded to anything the journalist said at all. The journalist quickly learned to love that fucking dog right away, as perennial heating oil shortages meant that it was cheaper to heat mechanimals than it was to heat rooms. Kazzie would curl up behind the journalist’s knees and radiate warmth like a hot-water bottle in the bed, all night long. Little boys and girls curled up with their seven-hundred-pound golden bears too.

One night Kazzie woke with a start and began howling at the ceiling. It thrashed about the bed, whipping the journalist awake with its tail. His mobility limited, the journalist could only wince and try to cover up. Then he caught a glimpse of what Kazzie was barking it.

There was a man on the ceiling. He was standing on it, in his stocking feet, as if it were the floor. In his hands he held the grating to the duct he had presumably just exited from. He let out a high-pitched whistle and Kazzie stopped barking, grew still, and clambered onto her belly.

“Always tricky,” the man muttered to himself, and then with a slight “eh” he shifted somehow and his feet gave way and he fell, landing roughly on the floor. There was something in the way the man moved that reminded the journalist of an unsuccessful gecko. His face was almost entirely different, but…

“Uthwowldho,” the journalist said. Osvaldo Iglesias held a finger to his lips and went ssshhh.

“Tell me,” said Iglesias, “what kind of journalist has zero social media presence, even in the Great Internet Archive? You know it took me this long to track you down? I’ve been looking for you since before the Lymewire epidemic. Since before the ommatidicon made everything but you public knowledge. The geese flew you over my fucking safehouse. I just happened to be looking up!”

The journalist had a lot to say, but it mostly came out as grunts and drool.

“God, stop, stop. Listen, just nod. Is the problem with your memory or your mouth?”

The journalist pointed to his mouth. Iglesias sighed. “You’re not going to like this, I bet.” He reached over to Kazzie and with a grip on her mandible and maxilla pulled its head apart. The journalist yowled and tried to pummel Iglesias with his good arm. Iglesias pulled something from his pocket and hit the journalist with it. Whatever it was, the journalist found himself extremely awake and aware of his surroundings and utterly unable to move.

“Want to hear something perverse?” Iglesias said as he removed the tongue from the dog. “They could have done what I am about to do for you at any time. The problem is that people are too attached to these stupid mechanimals, and to the idea of people suffering bravely in the shadow of a worldwide epidemic.” He opened the journalist’s mouth and put the device he’d used into it, then removed something. “You can’t run a bunch of charities if nobody’s fucking sick, right? I haven’t been sick in twenty-five years.” Iglesias tossed something over his shoulder.

The journalist saw his own tongue hit the wall. Iglesias stuck the dog's tongue into the journalist's mouth. "We'll see what sort of neurological damage you have in like three minutes. By the way, your dog still works. It'll just bump into walls slightly more often, and won't really lick you…"

The tongue took a few minutes to warm up, running itself along the journalist's teeth and clicking against the roof of his mouth. With tears in his eyes, the journalist's first words in weeks were "…Dental records."

"Arson investigators are stupid," Iglesias said. He smiled unemotionally, showing off his teeth. "I grew these myself. I happened to just keep my old teeth after I pulled them out. They found a couple."

The journalist said, "Sentimenta—"

"I am not!" Iglesias interrupted. "All of you are. The world's an overheated toy store now. Thanks to you. You stole my adhesive. Don't worry, I'm not here for my revenge; I've had it already."

Iglesias let that sink in for a moment, but as the journalist only looked bemused, he decided to continue. "My adhesive…how do you make a mechanimal the size of a deer tick? With tiny-ass screws? No, you glue it together. How do you pluck a single taste solute out of the air? In a net of buckyballs. The biomimickists were so eager to make real animals, that they made a disease vector. My glue is what made sure you got Lyme Disease. I'm not sorry."

"No, of course you're not," the journalist said. "But it's not my fault. They did call themselves biomimickists, though, you're right about that. They kidnapped me, hypnotized me, made me drop off the grid after with post-hypnotic commands. They said you had special gecko eyelids."

"I have special gecko everything," Iglesias said. "Except for my teeth. Shark teeth. They always grow back, never get a cavity. Oh, and I put in a little doohickey that gives me the telomerase expression of a goddamned redwood tree. Do I look any older to you? You look like shit, and it wasn't just the Lyme and the stroke, was it?"

"Everyone looks like shit these days," the journalist said. "But we all have very obedient mechanicats. That's your view, isn't it? So what do you want from me?"

"I want the identities of the biomimickists. I've been living under assumed names, paying cash for couch space, folding burritos under the table for spending money two days a week," Iglesias said. "I'm a goddamned immortal superhybrid and I live like an undergraduate because everyone thinks I'm dead. If I stick my head out, some bug will spot me and ommatidicon will start blaring and I'll be vivisected before noon, and

marketed in time for the five a.m. doorbuster sale."

"Sucks to be you," the journalist said. "I just pissed in a bag attached to my penis."

"Yeah. Gecko nose. I smell it."

"Good," the journalist said. "What do you want the biomimickists for? Revenge?"

"I want to teach them a lesson."

"What are you going to do? Eat them? Tear their pets to pieces with your bare hands? Did you build a tiger to feed them to with your tip money?"

"You've grown sarcastic in your old age," Iglesias said.

"We've only met once before, and I was trying to be professional then."

Iglesias said, "What I am going to do is tag them with this little number"—he patted his pocket, which held the thing he'd used on the journalist—"and then tell them every fucking thing they've done wrong. They broke the entire planet. They're probably secret billionaires by now, but they're stupid. Like the old saying goes, 'If you're so rich, how come you ain't smart?' Just tell me what you remember, and somehow I'll find them. If they're dead, I'll find their kids, or even better, their lawyers. Their lawyers' kids if I have to. Individual shareholders in their shell companies. I've got nothing but time. I eat once a week, I sleep an hour a day."

"You're an immortal genius superhybrid and that is how you wish to spend your life?" the journalist asked.

"Maybe I'll deactivate your tongue after you tell me," Iglesias said.

The journalist shrugged as best he could, given his condition. "They were…thin, young. One of them had green eyes, the other two had brown. I think they were graduate students, but maybe not from U. They kept me in a warehouse, but there was no traffic noise, so it couldn't have been in the Longmont. They had a sort of circular device that shined iridescent light. One of them—who seemed to be the leader—had a trace of a Chicago accent."

Iglesias nodded. "That's a good start. You can keep that tongue."

"Thanks," said the journalist. Then he said, "Kazzie, kill!" The dog, broken jaws flapping too wide, leapt for Iglesias's throat. Iglesias tried to whistle, but the dog was fast, and angry. No, just programmed to behave as though angry if abused, the journalist thought. Iglesias had his fingers deep in Kazzie's faux flesh, but the

journalist managed to roll himself over onto the nurse’s call button. Iglesias went for the window and threw himself out of it. Face now level with his food tray, the journalist made eye contact with a bright blue fly who winked and zipped out the window.

At least the news would be interesting again, for a good long while.