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Primacy: A Thriller
By J.E. Fishman

**“More fun than a barrel of overgrown
monkeys.” —*Kirkus***

1.

ONE FRIDAY IN May, a beautiful cloudless day, Liane Vinson had the shock of her life.

By the age of twenty-five, Liane thought she had become inured to profound surprise. She worked as a veterinary technician in the biggest animal testing laboratory in the world, Pentalon, where she had seen plenty in two years – seen plenty and done plenty. She had starved and poisoned more rats and mice than she could count, some of them her dearest animal friends. She had watched a close associate, Ronald Berg, put toxic ingredients into the eyes of rabbits. She had witnessed dogs living for months with wounds that the scientists wouldn’t allow to heal.

She had made her peace with all of it. One day, Liane thought, she might be one of those scientists. Currently, she assisted the head of the primate lab, Adnan Hammurabi, preparing a troop of bonobos for coming experiments.

Liane had her justifications for being at Pentalon. Her stepfather had landed her the job at the end of a rocky and extended adolescence. Her psychologist had urged it upon her for reasons that remained complicated. Also, she needed the money and she needed the routine. She didn’t harbor any illusions about whether there were better jobs in the world. She knew there were. But Pentalon, she believed, was a safe choice, and her recent promotion to the primate lab had come with a ten-thousand-dollar raise.

Sitting in traffic at the heavily guarded Pentalon gate in Farmingdale, Long Island, Liane looked out at the protestors and wondered what motivated them. She could see having qualms about what went on within Pentalon’s walls, but she couldn’t understand the obsession that so drove those people who called themselves FAULT – Folks Against Unnecessary Lab Testing. Day in and day out, they walked the picket in front of Pentalon, waving their horrible pictures and chanting their protests. One in particular, a redhead in vintage Converse high-tops and a sage-green sweatshirt who seemed to be their leader, never missed a minute. Off hours, she could be seen wandering a camp they had set up in the woods. The camp appeared to lie on public property. Nevertheless, Liane didn’t understand why Pentalon’s crackerjack security force

couldn't get local police to move the protestors along.

Today the guards at the gate were working to turn around an unauthorized truck. Liane stared out at the redheaded woman, their eyes met, and the woman shook her fist in anger. Liane struggled to tune out the vitriol, which came laced with the words *killer* and *abuser*. She knew she treated the animals in her lab as kindly as possible. In fact, she had in the back of her car a bagful of toys that she'd just salvaged from the trash by her apartment building. She'd boiled the toys in water and antiseptic and would introduce them to the apes as a form of psychological enrichment.

The redheaded woman shook her fist again and rattled a placard that showed pictures of a sad-looking puppy.

Despite the warm fresh breeze, which she'd been enjoying, Liane raised her car window.

Ten minutes later, she passed through security in the back lobby, the entrance reserved exclusively for primate lab employees. She fed her tote through the x-ray machine and walked calmly through the magnetometer and the blowers that sniffed for explosives. On the far side of the lobby, she used her passkey to enter the primate lab.

Liane stowed her personal belongings in the locker room and washed her hands in one of the lab sinks. She kept inside the yellow step-back lines that created a buffer around the perimeter cages, not out of fear of her gentle bonobos, but only because she knew there were cameras everywhere, and she didn't want a reprimand from Adnan about violating procedures.

Adnan Hammurabi stuck to the rules. For all that, Liane thought, he was a conscientious scientist and a sensitive manager, far from a martinet. When she'd begun the new job, he gave her a tutorial on her new charges, which had just arrived.

"*Pan paniscus*," he'd explained, "is also known as the pygmy chimpanzee, not for its size but for the Bantu people among whom it lives. Like the common chimp, *pan troglodytes*, they're the closest cousins to humans, sharing more than ninety-eight percent of our genetic code. But they're significantly rarer and more, shall we say, humanoid. Although bonobos are arboreal, when on the ground they spend a quarter of their time walking erect. More than any other primate."

As Liane went through the troop this morning, greeting each one and taking their vital signs, she recalled Adnan's unbridled enthusiasm with regard to working with this rare species. She remembered how he walked along when they first arrived, tapping the countertop with the heel of his hand.

"Bonobos are said to closely resemble *Australopithecus*, the bipedal hominid that was one of our closest ancestors — and probably one of theirs. They represent an excellent subject for the study of human disease."

In a little over a month in the primate lab, Liane had learned a great deal about her caged animals. Their average age was one or two, years younger than the stage at which they would normally stop suckling their mothers' breasts. At full maturity bonobos grow to about two-and-a-half feet tall and weigh ninety-five pounds, but the ones in the lab had so far achieved less than a third that size on average. In the wild, bonobos generally live forty to forty-five years. Under the right circumstances, Liane reckoned, she could spend the majority of her career studying the group that had just arrived. Long enough, if she returned for her Ph.D., to herself become the lead researcher.

Two of Pentalon's bonobos were twins. She and Hammurabi had segregated this pair in a small room off their main lab, and she made a point of visiting them often, noting how they shared their experience without being able to touch one another physically. Hammurabi had suggested that *Pan paniscus* twins were an unusual find, and he must have been right, because while Liane found many citations on common chimpanzee twins, she could locate no significant reference to bonobo twin studies in any of the literature.

She was growing attached, she knew, and Adnan had warned her about that. Liane would never forget how he'd put it, in fact, saying, "It's a significant step from the beady eyes of rodents to the soft brown orbs of our cousins. Because they're so close to us on the family tree, it's easy to anthropomorphize. I caution you against this, Liane. Ted Bundy, the famous serial killer, looked to many like a Boy Scout, but that didn't make him one. I once saw a chimp bite a technician's pinky off."

But when she pressed him Liane learned that the biter had been of the *Pan troglodytes* species – the common chimpanzee – not *Pan paniscus*, the bonobo. Indeed, bonobos were known to be the most peace loving of all great apes.

Having finished her rounds, she decided to bring her new toys into the twins' room first. They tilted their heads in curiosity, and Liane opened the cage of No. 673A, the male. He climbed into her arms and she set him down on the counter by one of the toys, a simple wooden box with cutouts on each plane in the shapes of different animals. He picked up the box and shook it. Hearing the rattle inside, he lifted an eyebrow.

"Now let's see what you're made of," Liane said, amused.

She took the box from him and opened the hinged lid and dumped out the pieces. The ape gazed for a moment at them: giraffe, antelope, elephant, monkey, chicken, turtle. He fingered the elephant and raised it to his lips. He licked it, tested it with his teeth.

"No," Liane said, "not for the mouth. Here's how it works."

She showed him by turning the box and inserting each piece into its respective slot. Then she dumped them all out on the counter and set the box down in front of him again. He lifted the turtle and pressed it to his lips, running the edge of the wood against the ridge between his teeth.

"No," Liane repeated. "Like this."

She held up the box and found the side with the turtle. She guided his hand and they fit the turtle through the slot together.

"There," she said. "See?"

She wasn't sure that he did. The ape picked up the giraffe and scratched the top of his head with it. He folded his wrist and cradled it under his arm, as if to indicate he was taking possession.

Liane left the room to get her electronic tablet. She'd just finished recording the vital signs of the main troop and needed to do these two. She was gone for half a minute. When she returned, the wooden pieces were all inside the box and the bonobo was shaking it over his head in triumph. That was interesting. She knew bonobos were shrewd and she wondered whether he'd cheated by opening the lid. As if in answer to the question, he snapped the lid open and closed while rocking his head from side to side.

He played his fingers over the box, feeling the edges while Liane measured his temperature with an ear thermometer and recorded his blood pressure with an armband. She took the box

from him and returned him to his cage. He looked disappointed, and Liane opened the cage of No. 673B, who engulfed her in long arms.

“Hello, Bea,” Liane said.

The bonobo touched her lips to Liane’s cheek and gently fiddled with one of Liane’s earlobes.

Seeming eager to try the toy, she bounded from floor to counter and lifted the box in the air, shaking it. Liane picked up the other toy — a hard plastic ball with a narrow slot. She unscrewed the two hemispheres and placed a kibble of monkey chow in the receptacle, then screwed it back together.

“The idea,” Liane explained to the ape, looking into her eyes, “is to turn the ball enough times in just such a way that the treat works itself out. Do so and it’s yours!”

She demonstrated by rotating the ball over and over, but she couldn’t work the kibble free. The toy had been designed to keep a dog entertained, but it seemed just as likely to drive one mad.

“Well,” Liane shrugged, “maybe you’ll have better luck.”

She handed the ball to the bonobo, who cradled it in her palms and sniffed at the slot, then shook it near her ear, listening for the faint rattle. Her hazel eyes searched Liane’s face. She placed her hands on either hemisphere and tried to twist the ball open, but her unopposed thumbs proved to be a liability; her grip kept slipping. She sniffed again at the slot and rattled the ball while Liane watched. Then an idea passed across her face. She set the ball down on the counter and gripped it between her feet, which were far more dexterous than those of a human. Holding one hemisphere rigid this way, she used both her hands to squeeze and twist the top of the ball. When it sprung free she waved it for Liane to see, then delicately removed the kibble and slipped it into her mouth, crunching it between her incisors.

“Bravo!” Liane clapped. “You’re a clever one!”

The female bonobo clapped in imitation.

The male, in his cage, clapped too.

There was something in the way the twins looked at each other today that made her heart ache. As usual, they so clearly longed to touch one another, and she suspected that her own nearly hairless person made a poor substitute when they groomed her to show their affection. Generally, when they rested in their cages, each clung to a dirty stuffed animal in the approximate shape of the cartoon monkey Curious George. She resolved no longer to rely on foraging expeditions for their entertainment, but to purchase more toys for them herself. Yet even that felt inadequate.

Breaking with protocol, she opened the male’s cage without putting Bea away. He leaped into her arms, staggering her backward under both their weights. She fell against the counter, and the apes jumped onto it, hugging one another exuberantly and vocalizing softly. They began to rub their genitals together, and Liane, laughing, tried to separate them.

“Now, now, we’ll have none of that in here.”

Hammurabi had once described the bonobos as “a little sex-crazed as a species.” Liane had read about males fencing with their penises and rubbing their scrotums together, and females demonstrating similar behavior in the wild. Bonobos, she knew, may also be the only primate besides humans that has sex in the missionary position. But she’d seen none of this behavior first

hand. Her bonobos were never allowed to touch one another, their cages spaced beyond arm's reach.

Bea looked up, tilted her head and made a noise that caught Liane's attention. The bonobos could be extremely vocal, but this was an articulation that she'd never heard before. It sounded like *en-decko*. Her brother added another novel articulation: something like *bowling-go*. They repeated their respective sounds over and over, and Liane found herself strongly suspecting that they were trying to tell her something.

She studied their faces and reviewed what she knew about animal-human communication. Over the years, several primates had been taught to communicate basic concepts and desires by pointing to pictographs or using American Sign Language, a common chimpanzee named Washoe being among the most famous. But those animals learned from considerable human training, Liane reflected, and skeptics had suggested that they may just be responding to human cues, rather than forming original thoughts and sentences. *Maybe that's what's happening here*, she thought. *Some form of mimicking. But of what? And how?*

"En-decko. En-decko. En-decko," she heard.

Bonobos make lots of noises, Liane thought. Why did these particular sounds unsettle her? But she needn't have answered herself. She already knew these vocalizations differed from anything she'd ever heard from a non-human. These sounds greatly resembled *words*.

She furrowed her brow and blinked to clear her head, half wondering whether she'd fallen asleep and begun to dream.

"Bowling-go. Bowling-go."

The apes wouldn't allow Liane to lose focus. They prattled on, seeming to find encouragement in the astonished look on her face.

She captured Bea's attention and pointed to her own chest. "Liane," she said. "Liane."

Bea uttered something that sounded like *liloba*. Was she trying to repeat Liane's name? It didn't seem precisely so. Just gibberish, perhaps, but said with such earnestness that Liane again had trouble dismissing it out of hand.

"Liloba," the brother repeated.

"Liane," Liane said.

"Moto," said Bea.

The apes jumped up and down.

"Moto. Moto. Moto. Moto."

Words in sequence. *Liloba. Moto.* They didn't mean anything to Liane, and yet they appeared to inspire something in the twins. Liane desperately searched their faces for meaning. Had one of them just pointed at her?