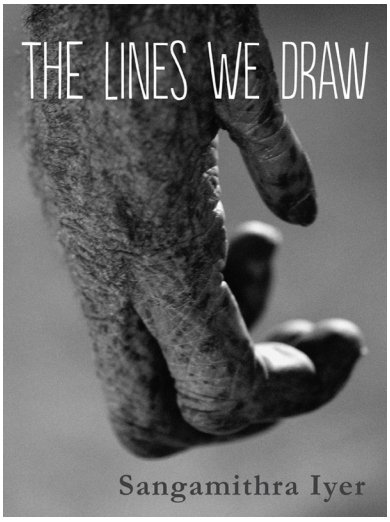
Cover



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The Lines We Draw

by Sangamithra Iyer

cover design: Two Trick Pony

Hen Press
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Dedication

For the small smalls: Emma, Niete and Gwen

MainText

He actually wrote it!

He had told me he was writing a book – a memoir – when we met at ZaZa, a restaurant on the Upper East Side of Manhattan, in June 2008. At the time, I was "freelancing," my euphemism for being unemployed. I had been volunteering for a documentary project on child soldiers and had recently come back from visiting a new chimp sanctuary in Washington State that had opened its doors to seven chimpanzees formerly used in hepatitis research.

I had wanted to interview him – Dr. Alfred M. Prince – because he had devoted much of his life to hepatitis research on chimpanzees and because a great deal of his work had taken place in Liberia, a country whose fourteen-year, two-part civil war was of growing interest and relevance to me and my work. I wanted to understand the aftermath of both the research and the war. I wondered how one gets into his line of work – vivisection – and perhaps how one gets out. I had no outlet for this story. No one was paying me for this. I came to ZaZa to meet Prince because I wanted to know how people drew the line between what they would and wouldn't do.

After our meeting, I wrote about him for a writing workshop. I referred to him as "Dr. Prince" because writing "Prince" alone made it sound like the artist formerly known as, which made me laugh. But it was not a funny story. My classmates scribbled things like "Is he for real?" when they read excerpts from our conversation. "This is some crazy shit," they said. I filed those pages away, hoping to return to them, and moved on to other writing projects.

But in December 2011, when the Institute of Medicine of the National Academy of Sciences released a report evaluating the necessity of using chimpanzees in medical research, I thought again of my conversation with Prince. Chimpanzees' biological closeness to humans has been justification both for and against their use in vivi-

section. The IOM study concluded that, for most cases, research on chimps was unnecessary, though for hepatitis C vaccine research, the Institute of Medicine was on the fence and unable to reach consensus.

When I read the IOM report, I wanted to follow up with Prince about it, but when I attempted to do so, I learned that he had passed away two months prior at the age of 82. That's when I looked up his website and learned that he had indeed self-published his memoir.

He had told me that the book he was working on was to be called *My Friends and Enemies*, but the final published title was *The Poetry of Life*. It had a sketch of a chimpanzee's face on the cover wearing rounded eyeglasses that looked like Prince's. I downloaded an electronic copy immediately. I wanted to understand him. I was also searching to see if *she* was in the book.

Mary. He had showed me a picture of her when I first arrived at ZaZa that Wednesday afternoon. He was waiting for me in the garden in the back, smoking a cigarette and enjoying a drink. Prince was in his late 70s then, balding and bearded. He had an oval face, tanned and slightly reddened. The tops of the rounded lenses of his eyeglasses matched the shape of his eyebrows. When I sat down, he ordered another drink. I ordered lemonade.

He had brought photos from Liberia to show me, and gave me a brochure on the Hepatitis Research Foundation, the organization he founded. For decades, he had conducted hepatitis research for the New York Blood Center (NYBC), which in the 1970s established Vilab II, a chimpanzee colony and virology lab in Robertsfield, Liberia, about 40 miles from the capital, Monrovia. As I flipped through the photos, I stopped for a moment at the one of Mary when I read the caption: "Who could not fall in love?"

Over a span of 10 years, I had volunteered at and visited several primate rescue and rehabilitation centers in North America and Africa. When I read that caption, it sounded like something I might have once said when people asked why I cared so much about chimps. I'd tell them about Moja in Ellensburg, Washington who crossed her hands over her chest and signed hug/love in American Sign Language, or Kiki Jackson in Cameroon who initiated games of chase with me and presented his arms for grooming. Or the afternoons I spent in the Mbargue forest with the babies, watching them learn to climb, play and rush back to me for reassurance. *Who could not fall in love?*

Years later I hiked for hours in the early morning in Nyungwe National Park in Rwanda to see chimpanzees in their natural habitat. When I arrived at the place where one group had spent the night, the chimpanzees had already left to start their foraging for the day. I gazed high up into the woods and spotted their nests. I saw the height and depth of their range, a taste of their freedom in their forest. *Who could not fall in love?*

But love was a surprising word for a scientist to use about one of his chimpanzee test subjects.

"So you're in love with Mary?" I asked Prince at ZaZa. I was unprepared for what came next.

"In fact, I have written half a book called *Manzee*, M-A-N-Z-E-E, which is about how I fell in love with Mary, and finally decided we had to have children. We had Manzee, who is half and half human-chimp," he said. "But I haven't finished the book. But one day maybe."

"So this book is – *fiction*?" I asked, wondering if this was a different book from the memoir he already mentioned.

"Yes, fiction," he said. "No, I never actually made love to her. I fantasized about it, though," he added and laughed. "I still think it is a very interesting idea and as far as I know has never been pursued for reasons I don't fully understand. But extremely interesting because if you had a half/half chimp-human, you could communicate with chimps; you could communicate with humans. You'd have a bridge for communication."

He paused for a moment and added. “And of course she’s beautiful, and it’s no wonder I fell in love.”

I took a deep breath, a sip of my lemonade – unsure how to proceed but eager to prolong the conversation – and then decided to inform him of what I knew on the subject. I told him that I had heard about two studies on crossbreeding – one in China and the other in Florida.

“I’ve been looking. I haven’t seen anything. To me it’s very amazing,” he said. “Many people love chimpanzees; many chimpanzees love people. But they haven’t ever tried to make babies to find out. Maybe you know about it, but I don’t.”

The year before my interview with Prince, I had had a chance to meet the famous chimpanzee Oliver, who was rumored to have been a crossbreed. Caught as a baby in the early 1970s in what was then Zaire and now Democratic Republic of Congo, Oliver was raised in the United States by animal trainers Frank and Janet Berger. Like many chimps in the entertainment industry, his teeth had been pulled as a safety measure. The resulting facial structure, coupled with his tendency to walk upright, made people speculate he was a human-chimp hybrid – a “humanzee.” As a result, Oliver garnered public attention as the supposed evolutionary “missing link.” But his humanzee status did not give him the respect that Prince may have imagined. At best, he was a source of amusement, not of brotherhood. He was taken on tour with The Monkees and was shipped to Japan to star in a TV show. Then, after years of being on display and sold from one owner to the next, Oliver had landed at the Buckshire Corporation, a primate holding facility that leased animals to labs, where he was stored alone in a cell for nine years before being sent to retire in San Antonio, Texas. DNA testing confirmed Oliver was 100 percent chimpanzee after all. He was not the bridge between two species, but the product of one species’ control over the other.

A documentary I watched about Oliver had mentioned rumors of other studies on crossbreeding, and I told Prince what I knew about them. “I heard there was a lab in China that tried it in the 1940s, but the lab burned down. The chimp died before coming to term.” The documentary, I told Prince, also mentioned a rumor of a secret study at the Yerkes National Primate Research Center in Florida, where a female chimp had allegedly been impregnated with human sperm. Both the mother and child were killed shortly after birth. Yerkes, however, denies this. “We have no records nor any other confirmation of a crossbreeding study,” a representative from their Public Affairs office later told me.

What Prince latched on to in this discussion was the method of impregnation, and he proceeded to talk about his novel. “In my present version of *Manzee*, I have the night where I try to consummate this marriage. I find out that a chimp vagina is very narrow, actually too narrow for a human organ to enter. So finally we decide on artificial insemination.”

The specificity of this detail was alarming. *How did he know this?* It was also an interesting choice of diction. *We decide.* In his fantasy of mating with Mary, he gave her the right to consent, one she lacked as a hepatitis test subject.

Later, I learned of additional attempts, or at least stories of attempts, to cross this boundary. Charles Siebert, in his book *The Wauchula Woods Accord: Toward a New Understanding of Animals*, recounted a recent story of a female adult orangutan who had been shaven and kept chained as a sex slave to a palm oil plantation worker in Indonesia. Siebert also discovered that Joseph Stalin was reported to have ordered Russian scientists to create a “living war machine.” He wanted “an invincible human being” to become part of the Soviet army and work force. There were many unsuccessful attempts of this. But one Russian doctor claimed that Asian women in forced labor camps were impregnated with the sperm of male gorillas, and some did produce children. “Far larger than the average human and covered in fur, they were described as being tireless salt-mine workers who, due to genet-

ic mutations, were nevertheless at once sterile and short-lived," Siebert wrote, summarizing this alleged report.

I didn't yet know Siebert's stories when I spoke to Prince, but I wanted to counter this romantic fascination with crossbreeding, to explain that it was not an act of love but power, not a consensual act, but one of dominance. I thought that to speak to the scientist, I would need to use a scientific argument, so I appealed to him with biology – that the offspring of two different species are unable to reproduce. "When they bred ligers, tiger-lion crossbreeds," I told him, "the hybrids had enormous health problems and ended up being sterile."

My arguments didn't persuade him. "To me, to be resistant to the idea is a form of racism," Prince said as he leaned in over the table. "It's like saying black people shouldn't marry white people or whatever. But I am definitely in the minority." He laughed.

I said nothing. Later, when I transcribed the recorded interview, I measured the silence that followed this remark – 15 seconds. *What was I doing here?* I came wanting to know how a man who spent 30 years with chimpanzees could justify caging and testing them. I had assumed that he, like most researchers, drew a hard line separating humans from other animals. But maybe he didn't draw any line at all. He wanted to love and fuck them. A boundary removed, but still a line crossed.

Years later, reading his memoir, I found out that the story of Manzee evolved from a dinner time conversation Prince had with his colleagues in Liberia. "I reviewed the evidence showing the almost total biochemical and biologic identity between chimpanzees and man, and suggested that man and the chimpanzee may belong to the same species," he wrote.

"The definition of the identity of a species is whether the two candidates can interbreed and produce fertile offspring … I would suggest that to settle the issue, it needs to be tried. That is the basis for my speculations in Manzee … Certainly, if a human chimp hybrid is born and found to be fertile, man will have to seriously consider the application of his political, ethical and moral philosophy to chimpanzees."

While he never published his novel based on the creation of Manzee, Prince's memoir includes a chapter that details his fantasy. "My love for Mary was intense. Every evening, after dinner, I visited her in her cage, bringing food and drink. We gradually became closer and closer. I brought a mattress into her cage so that we could lie together, play and fondle." Artificial insemination was no longer the chosen method of his imaginary impregnation. "After fondling Mary, I used a fine needle to inject Mary with a small amount of ketamine to induce a mild sleep," Prince wrote. "Slowly, I penetrated her and began to move more vigorously …" Months later, their son Manzee was born, and the chapter concluded with Prince waiting for Manzee to grow up to assess whether he is sterile.

I couldn't quite follow his moral reasoning for proposing to drug and rape (or in his eyes 'make love to') a chimp and impregnate her to determine whether it was ethical to experiment on chimpanzees. But when we met at ZaZa, I had even less to go by to understand what he was talking about. I didn't know if he was drunk, or crazy, or for real.

After that uncomfortable pause, I proceeded to ask Prince about the beginnings of his work with chimpanzees.

He told me he started his research work at the Laboratory for Experimental Medicine for Surgery in Primates (LEMSIP) in the 1970s. "When I was there, the chimps were in trailers in tiny cages." He found it too cruel to do research. "They were in baboon cages. They were too small for baboons and way too small for chimps." He took his hands and illustrated roughly three feet by three feet by six feet. "This high, this wide, this deep."

Even though I never visited LEMSIP, I knew its legacy. Rachel, a chimpanzee I met at the Fauna Foundation in Montreal, was formerly used in hepatitis research at LEMSIP. She had been knocked down with a dart gun con-

taining ketamine 147 times so that various procedures could be performed on her unconscious body. They cut into her liver and took 39 punch biopsies. Though her lab days were long over, she had anxiety attacks and spun her head repeatedly in figure eights. The *Journal of Trauma & Dissociation* had published a paper on complex post-traumatic stress disorder experienced by Rachel and another chimpanzee at the Fauna Foundation who was previously used in research at LEMSIP. These chimpanzees exhibited symptoms similar to those seen in soldiers coming back from war.

There was an entire ward of ex-LEMSIP chimps retired at Primarily Primates in San Antonio, Texas who were separated from the other chimps and couldn't be given the same kinds of toys. Anything remotely sharp, they would use to cut themselves.

"I've been to several primate centers in the U.S. LEMSIP was by far the worst. It was horrible, horrible, horrible," Prince said. "They had a wonderful vet. He loved the chimps. He fought for them but couldn't do much for them. It all had to do with the director, Jan Moor-Jankowski. He was actually a charming man, but what to do?"

"I've heard Charles Taylor was also a charming man," I quipped, referring to the infamous former warlord and ex-president of Liberia. Prince laughed.

I later read that Prince was invited one evening for drinks in Gbarnga at Taylor's temporary mansion, with rooms decorated with imitation Louis XV furniture. "He [Taylor] chatted with us for a half an hour, impressing us with his charm." Prince wrote. "Little did I realize, at the time, his total disregard for his people and his total dedication to enriching himself." Before his guests left that evening, Taylor invited Prince to watch a documentary of the torture and assassination of Samuel Doe, the former president of Liberia, in which his ears and genitals were cut off.

Perhaps it was unfair to compare Moor-Jankowski to Taylor, who is now serving a 50-year prison sentence for his role in Sierra Leone's civil war. In fact, the LEMSIP director wore, in the eyes of some, the mantle of a hero. He was born in Warsaw and became part of the underground resistance fighting the Nazis. After escaping 27 German and Soviet prisons, he made his way to Switzerland to study medicine.

Nor was Moor-Jankowski unaware of the ethical implications of his work. He once experimented on himself, injecting monkey cells into his own body, but rejected a suggestion that he test on prisoners as immoral. When he set up a laboratory to test on other primates, he did it with the asserted intention of doing it humanely.

"Humane" is a strange word, used to describe the best of human qualities but often applied to the worst of human actions. By the end of his career, Moor-Jankowski had doubts about using primates in research. In Deborah Blum's *The Monkey Wars*, he is quoted as saying, "When I came here, you know, I was Mr. Primate. But if I was starting my career now, I wouldn't work with animals. I've thought about some of the things scientists do to animals. And I think they are wrong." Upon his death in 2005, the *New York Times* published an obituary entitled "Jan Moor-Jankowski, 81; Used Chimps, Kindly, in Science."

Some animal welfare groups respected Moor-Jankowski because he would engage with them and was an adamant supporter of free speech. He edited the *Journal of Medical Primatology* and published a letter from Shirley McGreal, a prominent primate advocate who criticized the biotech company Immuno Lab for its plan to capture wild chimps for testing. The company sued both Moor-Jankowski and McGreal for libel in an action that lasted seven years and cost over two million dollars. His obituary captured his opinion on this court case: "As a very young boy I fought the Germans for freedom. I didn't want to stand up for muzzling."

How did a man with this history, a seemingly open mind, and strong sense of moral conviction end up creating psychosis in the animals under his care at LEMSIP?

The way Moor-Jankowski ran the lab was seemingly well intended, though misguided. For one thing, he kept the chimps alone in cages so they didn't fight. According to Prince, "The chimps could do nothing but nod. They were depressed. They couldn't move. They couldn't be with another chimp. They couldn't hug another chimp. They couldn't groom another chimp. It was disgusting." They never got toys or play things because Moor-Jankowski thought they were unhygienic. They never had access to outdoors because he feared they'd be susceptible to disease.

What did it do to members of a species who, if left to their own devices, would spend seven to 10 hours a day in highly social groups foraging for food in the bush to be confined so harshly that they never had a glimpse of a tree or the companionship of another chimpanzee?

Unable to tolerate the conditions at LEMSIP, Prince looked elsewhere for a place to do his research in a manner that would be less troubling. On a visit to West Africa to acquire chimpanzees for LEMSIP, he discovered the Liberian Institute of Tropical Medicine, which later became the Liberian Institute of Biomedical Research, part of the Liberian Ministry of Health. It had a lab and facilities built by the Firestone rubber corporation, and soon after, he convinced the NYBC to move his research there, to a facility, to be known as Vilab II, that was not only on the chimpanzees' home continent, but where he could develop lab conditions that were semi-wild. The chimps would have outdoor cages and be housed in groups, never alone.

"As I got to know chimpanzees, I realized more and more how close they were to us, and how we owed them very special treatment," he wrote in his memoir. He proposed a Chimpanzee Bill of Rights that stated that "chimpanzees must be acquired humanely; that they must be housed in groups in enclosures providing room for exercise and play; and that at the conclusion for [sic] their involvement in research they must be transferred to free ranging sanctuaries for long term retirement."

Prince's plan, like Liberia itself – colonized by the freed slaves of the United States – started with what seemed like good intentions, but ultimately charted a course of tragedy. The first problems arose almost immediately, with the basic issue of obtaining chimpanzees. At that time, many chimps in U.S. laboratories were wild-caught, which involved shooting a mother chimpanzee, who would fall on her back while protecting the baby in her arms, who would then be captured. Prince wanted to explore nonlethal methods and opted for anesthetic dart rifles. But this approach was not without casualties. After one chimpanzee climbed 100 feet before the anesthetic kicked in and then fell to his death, Prince's team of hunters tried a different approach – surrounding the chimps at their feeding sites. They set up camp in the forests of Grand Jeddah County to capture the first 38 chimpanzees for Vilab II. The forests at the time were just beginning to be logged, creating roads for bush-meat hunters, who would kill primates and sell their bodies as a delicacy. Prince rationalized that the wild chimps in that area would not have survived long. From this captured population, Vilab II started breeding chimps at the lab.

Two decades later, logging fueled the Liberian civil war. *Blood timber* is what they called it. "I used to go up country in Liberia, in the bush, high bush. I don't know if you've been, maybe in Cameroon, but I used to go on motorcycle and these big logging trucks would come down with trunks this big," Prince told me as he spread his arms out to their fullest extent.

In fact, I have been.

I remember one night traveling along bumpy laterite roads in Cameroon with a rescued orphaned baby chimpanzee, Emma, on my lap. She was orphaned by the bush-meat trade. Only nine months old, Emma was too young to be profitable as meat, and was found tied up behind a market in the capital city, Yaoundé. Perhaps she would have been sold as a pet if the Sanaga-Yong Chimpanzee Rescue Centre hadn't intervened. It was 2002, and I was transporting Emma to her new home in the Mbargue forest, in a sanctuary for orphans like her. I still

remember the way her tiny hands and opposable toes latched onto my body. It was the first time in my life I felt like a mother, but I knew I could never replace the one she lost.

The only other vehicles that night were large logging trucks, which served as conduits for transporting illegal bush meat to other markets. As I carried one chimpanzee back to the forest, I wondered how many these trucks were taking out.

Bushmeat is another piece of the story leading back to chimpanzee experimentation and, ultimately, leading back to Prince's work. The bush-meat trade and the slaughter and consumption of wild primates have been linked to the origins of HIV. It was in Cameroon that some scientists believe the benign simian version of the virus jumped species, mutated, and spread to human populations.

In the 1980s, chimpanzees in U.S. labs were bred heavily for HIV/AIDS research. But despite their genetic closeness – they share over 98 percent of our DNA – chimpanzees ended up being a poor model for research on HIV in humans. As a result, there was a surplus of chimpanzees in federal labs, and many were passed on to hepatitis research.

In 1995, the National Institutes of Health called for a temporary moratorium on breeding chimpanzees in federal laboratories, which was made permanent in 2007. Chimpanzees, unlike other lab animals, are not killed after their research study is complete. In 2000, one of President Clinton's last acts before leaving office was to sign the Chimpanzee Health Improvement, Maintenance and Protection Act, which established a system for the retirement of chimpanzees no longer used in research.

While Vilab II would not be affected by this legislation, Prince did want to return the hepatitis research chimps in Liberia to the wild after his research was over, but this too proved difficult. Initially, he hoped to release them into SAPO National Park in Liberia, but gold and diamonds were there, and its future as a protected reserve was uncertain. In the 1980s, Prince and his team had unsuccessfully released a group of 20 chimpanzees onto an island near Asagny National Park in neighboring Cote d'Ivoire. Almost half of the chimpanzees died or disappeared during the first few weeks. Releasing lab chimpanzees into their natural habitat is complicated. Wild chimps could be territorial and might not accept them. Lab chimpanzees were acclimated to humans and could walk right up to poachers. They did not know how to survive on their own.

The NYBC finally decided to buy four small islands – 10 to 90 acres in size – on two nearby rivers, Farmington and Little Bassa, estuaries of the Atlantic Ocean. They constructed two canals on the largest island, dividing it into three, creating six islands in total. Because chimpanzees do not swim, they could be released and contained on these islands, with the ability to roam freely. Lab staff would visit the islands regularly to check on them and supplement their food sources. "They get papaya, avocado, orange, grapefruit, coconut," Prince said. "We have traditional ovens made with clay, and we bake 140 loaves every day with vitamins, minerals, essential oils, and everything good."

This worked out until the war.

The airport in Monrovia was closed during the Liberian civil war, so when Prince made the trip to Vilab II, from New York, he had to go by road. He flew to Abidjan, Cote d'Ivoire, and drove. As he approached the Liberian border, there were checkpoints every kilometer.

Children with AK-47s came up to his vehicle and asked, "What are you doing here?"

"The first thing I would do was smile at them," he told me, "and then say, 'Would you like a cigarette?' They all wanted to smoke. I never had any trouble getting in."

Prince took a drag of his cigarette and continued.

"What was really bizarre was that they had blond wigs, brassieres, and skirts. All these checkpoints were commanded by teenage boys with fully loaded AK-47s dressed as girls."

"Still don't understand it," Prince said, "I've talked about it to a lot of Liberian people, and they said, 'Things were just upside down.'"

In my research on child soldiers, I came across one reporter, Bryan Mealer, who wrote about the "stoned gunboys in drag" in Liberia. He explained that their attire "conjured a magic ruse, a second identity that confused their enemies and shielded them from harm."

When it came to vivisection, I wondered if Prince felt he had a magic ruse, something that allowed him to cage and test a species he claimed to love. Was his "love" for chimps a way to justify his control over their bodies, a way to forgive himself for what would happen to them?

"We had 90 chimps on the islands in the early part of the war," Prince said. "We had the government of Liberia's forces on one side of the river and Charles Taylor's forces on the other. We had to go along the river to feed the chimpanzees, and the soldiers said you can't go because if you go, you'd be shot from one side or the other. So for a while we couldn't go, which was terrible because the islands didn't have enough food to support the chimps. So all the babies died. At that point, all the females had a baby. Twenty percent of the adults died of starvation."

After that part of the war, they brought the surviving chimps back to the lab. But in January 1993, soldiers forced the staff at gunpoint out of the lab, where they would be unable to return for some time. They shot and killed Brian Garnham, an engineer who worked at the compound, in front of his wife, Betsy Brotman, Prince's longtime research assistant. Dozens of chimpanzees in the lab died, from dehydration, starvation, or bullets.

When fighting had ceased, the surviving chimpanzees were released back on the islands.

In a 1996 *New York Times* article about Brotman, Andrew Revkin wrote, "In a country where sporadic civil war has claimed 150,000 lives since 1989, the plight of a single expatriate and a laboratory full of chimpanzees provides only the smallest glimpse of a great tragedy – something like viewing a few square inches of Picasso's 'Guernica.' Yet even in that detail, the pain is boundless."

Shortly after I met Prince, I took the ferry from lower Manhattan to Staten Island to visit Little Liberia. The Park Hill neighborhood has the largest Liberian community outside of Liberia. I met my friend Agnes Kamara-Umunna there one day at the opening of a new after-school center for kids. I told her I was researching the use of children in armed conflict. She told me she collected their stories. She carried them on a USB flash drive she wore around her neck.

Back in Monrovia, she ran a radio program, "Straight from the Heart" (inspired by the Bryan Adams song), where survivors shared stories of the war, and she asked them about reconciliation. She was a statement collector for the Truth and Reconciliation Commission (TRC) in Liberia, and came to the United States to continue this work. Liberia was the first country to establish a TRC program in the diaspora, recognizing that the legacy of the civil war extended beyond its borders.

In some ways, it felt like I was taking Prince's statement.

The war in Liberia ended in 2003. There has since been a moratorium on logging too. NYBC's chimpanzee research at Vilab had also come to an end in 2006. According to Brotman, "Vilab did a great job for a long time, but there are new methods for doing this kind of research so we don't need to use chimpanzees." She was referring to in vitro cell culture, which could replace the use of live chimpanzees.

But Prince disagreed. He was not yet ready to abandon the use of the chimpanzee model for hepatitis C research,

and an internal rift began to grow between him and the NYBC. The center planned on shutting down the research in Liberia and had considered the idea of partnering with a sanctuary to take over the care of the surviving chimpanzees on the islands. They had been in discussions with the Fauna Foundation in Montreal, who wanted a commitment by the NYBC that research would be terminated and that they would endow the lifetime care of the surviving chimpanzees. Prince wanted the NYBC to turn over the lab to his organization, the Hepatitis Research Foundation, so that he could continue his work on hepatitis C with a small number of chimpanzees, and retire the rest. Prince expressed his hope to *later* transfer the chimps to an appropriate welfare organization, but noted that it couldn't be done at the time, "as most of these organizations share the Fauna Foundation's firm opposition to collaborating with us while we continue to do research."

Prince resigned from the NYBC in 2006, when the research was terminated. His relationships with the chimpanzees on the islands terminated at the same time. "I'm actually not allowed to go see the chimps." Prince told me. "I'm not allowed to talk to anyone who works there without written permission," he said. He continued to raise money for hepatitis C research on chimpanzees through his foundation. But he would require tens of millions of dollars per year to do that work in the United States, compared to roughly $900,000 per year in Liberia, and never raised enough funds to continue.

I had asked Prince why he felt he needed to work with chimpanzees.

"Why are chimps so skilled at resisting infectious disease, that we are not as human beings? I think that was one of the most important things that we tried to figure out. I can't say that we succeeded. We still don't know," he said. Though he infected the chimpanzees with hepatitis B and C, they never got sick like humans. They didn't exhibit the symptoms, or get cirrhosis of the liver. That was why he studied them and also how he justified testing on them. "If they got sick, I'd say I can't support it," he said. "They are all happy," Prince said. "They all have hepatitis B or C, and some still have it and they couldn't care less. They are fine."

Prince's work at Vilab II was not fruitless. It led to the development of a solvent/detergent process to clean HIV and hepatitis B and C from freshly frozen plasma in blood banks to prevent the transmission of these viruses through transfusions. He and his team also created a low-cost vaccine for hepatitis B to be used in the developing world. Use of chimpanzees in this research was often justified by the potential benefit to humans. Only some humans, however, received this benefit. This low-cost hepatitis B vaccine was used all over Asia, but could never get into Africa. "It was still too expensive. Even at 25 cents a dose, it was still more than African ministries of health could afford, and they needed it more than anywhere else in the world," Prince said. His vaccine couldn't be used in the continent of its discovery. "It was my biggest disappointment."

The former research chimpanzees are currently living on the river islands, supported by NYBC, which for now is continuing to pay the staff to feed them. The chimpanzees are technically property of the Liberian government, which is currently in arbitration with NYBC over royalties collected by the NYBC from work conducted at Vilab II. The chimpanzees' future remains uncertain, as this legal battlefield will determine their fate and who will ultimately be responsible for their lifetime care.

With Prince now dead, I wondered what would become of his work on the hepatitis C vaccine. I received an email from his daughter informing me that the Hepatitis Research Foundation would be closing down and directing donations instead to a chimpanzee rehabilitation sanctuary. "I am his daughter and chose to have donations sent to the Fauna Foundation … My father and I were extremely close, and I am certain he would have wanted me to do that, as the chimps did so much to help my father with his research."

One of the last things Prince said to me was, "So now you've met one of the crazy chimp researchers."

"Yes," I laughed. Things just seemed upside down.

But Prince couldn't merely be dismissed as crazy, nor the situation simply as upside down. Looking at the future of chimpanzee research, the recent Institute of Medicine report concluded that if chimpanzees are to be used in research, they should be kept in "ethologically appropriate physical and social environments."

Reflecting back on this conversation and the decades of trials and tragedies within, I wondered what it meant to be ethologically appropriate.

In his decades of work with chimpanzees, Prince kept drawing the line between what he would and would not do. No small cages, no isolation, no wild capture, and only injecting them with diseases if he knew it wouldn't make them sick. He wrote a poem about chimpanzees in his memoir that concludes with the line, "we must think of you as one of us."

Prince had posed the question to me toward the end of our conversation: "If you treat chimps well and you keep them in social groupings never less than two and ideally never less than four and you do a study – it will take two years – in which they take ten blood samples and after that if they are infected, they are cured. Then you put them in groups of 20 and you retire them. And they can be happy like chimps, and can groom each other and play. Have you done wrong?"

But was all of this nothing more than a magic ruse, meant to confuse enemies and shield us from the harm we cause?

Vivisect. To cut life. The first cut was of the bond between a mother chimpanzee and her child. The second between chimpanzees and the wild. Those habitats were slashed too, fueling more violence.

Tree trunk felled.

Machete chops limbs.

Punch liver biopsy.

The ethical response isn't about drawing a line or shifting a boundary; it is about connecting the dots.

Bibliographies

Sangamithra Iyer is a writer and a licensed professional civil engineer who holds a B.E. in civil engineering from the Cooper Union, an M.S. in geotechnical engineering from UC Berkeley and an MFA in creative nonfiction writing from Hunter College, where she was a recipient of a Hertog Fellowship. She served as the Assistant Editor of *Satya* magazine and is an Associate of the environmental action tank Brighter Green, where she writes about climate change and the globalization of factory farming. Her writing explores issues related to animals, social and environmental justice and the intersection of the personal and the political. Her work has appeared in *n+1, Hippocampus Magazine, Satya, The L Magazine, Philadelphia Weekly, Open City,* and at Our Hen House.

Her essays have been anthologized in *Sister Species: Women, Animals and Social Justice* (University of Illinois Press) and *Primate People: Saving Nonhuman Primates through Education, Advocacy and Sanctuary* (University of Utah Press). She lives in Brooklyn with her husband Wan and their rescued pit bull Moo Cow. Follow her @ literaryanimal.

Our Hen House (www.ourhenhouse.org), "a place to find our way to change the world for animals," encompasses a popular weekly podcast, an online magazine (producing new content daily – including columns, features, reviews, and interactive components), a video production unit, and a bustling social media presence. Since its founding in 2010, by Jasmin Singer and Mariann Sullivan, Our Hen House has quickly become the go-to place for finding out about ideas and opportunities for changemaking; current events from the world of animal rights; and the latest from the quickly-growing vegan scene, including food and fashion. Jasmin and Mariann regularly travel around the country (and beyond) giving talks on veganism, activism, animal law, and the intersections between the arts and animal advocacy. In 2013, the Our Hen House podcast was named a Webby Award Honoree and, in 2011, Our Hen House was named by *VegNews Magazine* as the Indie Media Powerhouse. Our Hen House is a 501(c)(3) nonprofit charitable organization.