

LISTENING TO KOKO

A gorilla who speaks her mind

Elizabeth Hanly

This is the story of an embrace: the story of Koko the gorilla, or as she describes herself, "the fine animal gorilla," and Dr. Penny Patterson. Koko, as you may know, has been featured in *National Geographic*, on PBS, and on *Mister Rogers*. Koko is a gorilla who understands human language and can sign in response.

She was born Hanabi-Ko, "the fireworks child," in the San Francisco zoo in 1972. Zoo conditions being what they are, even under the best of circumstances, Koko was in trouble almost from the start. At four months old, she weighed what a gorilla customarily weighs at birth; she was malnourished and suffered from a variety of potentially lethal diseases. Enter Francine (Penny) Patterson, then a doctoral candidate in psychology at Stanford.

Patterson had been looking into experiments using human language with apes, studies that at the time were very new and highly suspect. Talking with animals was the stuff of wizards. Nobody was sure whether to trust the work or not. Patterson had grown up in the wilds of Minnesota. She had spent the first decade of her life hanging out with just about every animal she could find. She had always known that she wanted to study animals. Finally, the ape-language experiments became too compelling not to pursue. But considering the reputation of gorillas—ferocious, unmanageable, downright stupid—Patterson assumed that she'd work with the more user-friendly and apparently smarter ape, the chimp, as had other psychologists. And then she saw Koko.

Initially the zoo master had turned thumbs down on Patterson's proposal. When it became apparent, however, that Koko would be isolated from her own kind anyway, off for months of recovery in the zoo nursery, he relented.

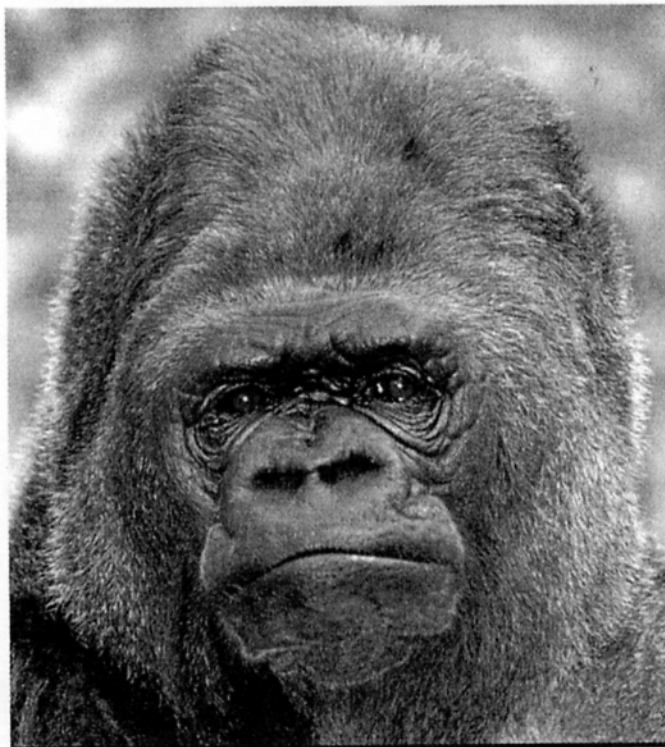
"At first it was all about patience," Patterson says of her work with Koko. For hours each day, every day, she would mold Koko's hands and model the signs. Patterson was working with Ameslan, standard American Sign Language. Her faculty adviser at Stanford, Karl Pribram, a leading theorist in neuropsychology, suggested that after several months' work, Patterson should be satisfied if Koko managed to learn three signs: eat, drink, up.

"Everybody knows how hard it is to keep a little child concentrating on a task," Patterson says. "Imagine how much harder it is with a gorilla. I kept trying to get Koko to focus

on her hands. I'd blow on a window in her living area and draw things—stars and angels—in the breath. Koko loved that. She'd breathe onto the glass and try to draw too. We'd do this over and over and over."

Many psychologists and biologists believe that human language originated with gesture—with our hands—that it was by using our hands that we were first able to conceive of propositionality, hence abstract thought and language.

About two weeks into the project, Koko had begun to sign. Was there a Helen Kellersque moment? "About a billion of them," Patterson says. But she describes the flash—the realization—as her own, rather than Koko's. "I wasn't a fluent signer when I began the project," Patterson says. "Koko may have been signing even earlier. I think perhaps I could not recognize it. Even today, thirty years later, Koko is still trying to tell me things I don't always understand at first. Often I have to look at a video tape of our interaction, and look at it again and again, before I see something. Then I'm usually stunned—how Koko has taken Ameslan, which is in some ways basically a telegraphic language, and molded it to her own expression."



Isn't she adorable?

RON COHN / THE GORILLA FOUNDATION/KOKO.ORG

Elizabeth Hanly has written for *Vogue*, *Elle*, *the New York Times*, and *the Washington Post*, among other journals. She lives in Florida.

Koko has at least nine hundred words at her signing disposal. She can link them up in statements of up to eight words. All this is documented. Her creative transformations, her creative play with language—her creativity per se—may be more interesting. It's also more elusive and harder to quantify.

Koko refers to ice cream as "my cold cup." A ring becomes "finger bracelet." Nectarine yogurt translates into "orange flower sauce." The gorilla can keep rhythm when asked. She has no trouble decoding pig Latin. She lies when it suits her. "Who broke the kitchen sink?" one of the staff asks her. Koko indicates another staff member, whirls about and starts to laugh. The gorilla has her favorite insults too, not unlike those of small children. "Dirty stupid toilet," she signs. She understands that color carries emotional weight. When angry, she sometimes describes herself as "red rotten mad."

Patterson has a recurrent dream: she and Koko are not just signing to each other, Patterson is hearing Koko's words. Always after this dream, Patterson wakes and has to ask her-

"for wanting to get back to Koko's side to work." And now, three decades later, not so much has changed. This is, after all, a gorilla that, when using a large plastic tube to slurp up a drink from a pan, describes herself as a "sad elephant me." A gorilla who, when tired or afraid, asks that the drapes be drawn in her room. One who decorates her head with flowered fabric when she has a crush on some guy (I'm talking human guy). A gorilla who shivers with delight when tales of alligators reach her ears.

Patterson's problems are not of epiphanies but of time. It takes about eight hours to transcribe one hour of exchanges with Koko. That doesn't include any time to reflect on what Patterson has experienced, or to talk any of it through with staff members, or hear their feedback. Then there is fundraising—the time it takes to keep the whole thing running.

Once Patterson assumed she'd have a houseful of children. She has had her steadfast lover. But the work was all-consuming. "I haven't had a single moment of regret," she says, but she does worry. She has literally tons of tapes and notes still

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self, "What is real, what not real?"

Koko, it seems, is always listening. One day Patterson was talking to another staff member within earshot of the gorilla. "Going to Los Angeles once a month will kill me," she was saying. Koko approached. She and Patterson had previously talked seriously about death. Patterson had asked Koko about her understanding of it, and the gorilla had responded, "Trouble old...comfortable hole bye...sleep." Death in the abstract had seemed to suggest peace to the gorilla. But now she was agitated and signing "frown, frown, frown, frown, frown." Only after Patterson explained that she wasn't about to do anything that was going to get her killed, did Koko relax. Now Patterson and the staff have taken to spelling such hot items.

Language as a means of communicating (creatively or otherwise) is one thing; language used for self-musings—for reflection—opens further, perhaps even more tantalizing doors. Patterson often finds Koko signing quietly to herself. Sitting amid the nest she has built of fabric and old tires, she'll hold a bit of that fabric to her face. "Soft," she signs.

Did Patterson intuit from the start how much her gorilla might be capable of? "At first, I couldn't sleep," she told me,

to be explored in depth. While she may be quite young, fifty-five, she's well aware of her own mortality.

Let alone that of gorillas. All of the great apes are now endangered species. Patterson's foundation has recently helped establish an orphanage for them in Cameroon. In fact, her foundation has come to focus more and more on Africa. Two decades ago, a story of Koko and her pet kitten was published in the States. A whole generation here read it, loved it. Patterson's foundation is reprinting that story and distributing it, free of charge, throughout Africa, but especially in those countries where gorillas are regularly killed for bush meat, or where the sale of a gorilla hand for export might support a family for a year. Suffice it to say, this is an uphill battle.

Meanwhile, Patterson's research is taking a closer look at Koko's utterances. That research is beginning to suggest that what had once appeared as simple hooting and hollering may be instead a sophisticated tonal language. So far several dozen repeating and distinct sounds have been recorded. It also appears that untaught gorillas sign as well as speak. Researchers have thus far notated sixty distinct gestures. Getting out word of this—getting out word of the "human-

ity" of the apes—may help stop their slaughter. Patterson is betting on it.

Evolution—as just about every reputable scientist understands it—is about each species developing its own best way to survive. Patterson talks of biological tradeoffs, of the human brain as a very expensive piece of equipment—of blood and other resources going there at a considerable cost to a whole muscular system.

A statement this simple, of course, can turn much of Western civilization on its head. Man as evolutionary apex? Perhaps the whole drama can boil down to something simpler. Might it be framed not so much as man as unique spark of consciousness, but rather as nature as mixed bag—and what we as a species may have gained and lost? Perhaps the question may be not so much what another species may be capable of, but rather what it has chosen, or what evolution has chosen for it. It can legitimately be asked, for example, what we have lost in immediate experience, thanks to language. Imagine yourself in a forest, or on a beach. Or on a dance floor. Remember what that can feel like?

"Do gorillas know things that people don't?" Patterson once asked Koko. Koko talked about her hairy belly and her harder head. When Patterson pushed the question, the gorilla's response was painfully honest. "Don't know," she said.

One may hope for no less honesty from Koko's teacher. Patterson doesn't disappoint. This lady is no simple romantic. She may talk of gorillas sharing 98 percent of our DNA pool. Clearly, the great apes—either chimps or gorillas, according to what measures one focuses on—are humankind's closest relatives. Patterson may point to myriad gorgeous exchanges with Koko, but she's also the first to bring up stories of what we might call the great ape atrocities. Koko exists, and so do cannibalism, assassination, even political kidnapping among her relatives and ours.

But isn't all this just a bit comforting? The drama of light and dark—it seems that humankind hasn't invented it. Or we're not its only players. Mankind becomes more and less than a glorious and lonely experiment. Nature becomes alive, numinous as cave painting in Lascaux.

"Koko has her opinions about the sacred," Patterson tells me laughing. Sometimes people write to Patterson with questions they would like Koko to answer. One of those questions was about the meaning of life. Patterson remembers thinking, "I'm certainly not going to torture Koko with that." "But then came a night"—Patterson is clowning now—"it was a wet and stormy night." Actually, she had a deadline to meet for the Koko newsletter, which serves not only to keep Koko's fans updated, but also to keep issues of great ape survival in the public eye. Patterson describes herself as too tired to think that night. "You've got to help me, Koko," Patterson told her comrade-in-arms. "I've run dry. I've got to sleep. Come on, Koko. Please. Give me something to begin with."

"Lights off," Koko signed and laughed and whirled.

"Come on, Koko. I'm serious." The dialogue went on like that for a while, then for a moment the sleep-deprived psychologist became less than a purist: she asked the question. And Koko's response? "People be polite. People have goodness."

"Koko also has some thoughts about God," Patterson tells me. The psychologist is now downright delighted with herself. "Our conversation went like this," she says.

Patterson: "Who is God?"

Koko: "Me."

Patterson: "Who created the world?"

Koko: "Another woman."

Simplistic? Reductionistic? Maybe. Who's to say?

And Patterson herself? "Humankind and its spirituality are in their infancy," she says, referring to just about all organized religions and what she calls "their small glitches." "Small glitches?" I ask. "Yeah, like the Inquisition," she answers.

Raised a Catholic, Patterson laughs about the no-escape clause inherent in her religion. The figure of Christ, she tells me, continues to move her as no other. She sees that figure as something to emulate, something she treasures when she glimpses it in others. But interspecies communication is her experience of Communion. For Patterson, the Body of Christ is large and ample.

Patterson worked with a second gorilla, Michael, who, it was hoped, would be Koko's mate. Over a decade of work, Patterson came to believe that Michael was potentially even more articulate than Koko. Not only were his language twists and turns arguably more inventive, Michael loved to paint. "Koko," Patterson laughs, "is a terrible painter. But Michael was something different." He died three years ago from cardiomyopathy. Patterson can barely bring herself to talk about the loss.

Now there is Ndume, a third gorilla, an adolescent who arrived too late, Patterson believed, to begin to learn to sign. But Patterson and the zoo staff are hoping that Ndume and Koko may form an attachment. Mating among gorillas, it seems, is only a modicum less complicated than it is among humans.

Meanwhile, Ndume's presence is very much felt. Patterson remembers an evening when one of her migraines hit hard. She was with Ndume. Almost as a reflex she spoke to him of what was happening as she lay down nearby. "And his face became one of excruciating pain. He stationed himself close to me and seemed to stay there seated deep within himself, like a Buddha, for a very long time. Very slowly he would open his eyes, and close them, almost hypnotizing me in the process. This is not a character trait that gorillas often exercise," Patterson told me. Ndume was free to move on to other rooms in the enclosure; he was free to interact with other staff members too. He chose instead to accompany her, eyes slowly opening and closing.

Patterson says, "If there's anything sacred in us, it's in them, too." □