

JANE GOODALL

Jane Goodall has an iconic status like no other living scientist. For decades, she's lived in the public eye, as we've watched her evolve from curious ingenue to celebrated sage. By now, she's so widely admired that it's easy to forget how she once rattled the cages of the scientific establishment.

At a time when wildlife biologists were taught that animals didn't have minds or personalities, Goodall wrote vivid accounts of David Greybeard, Flo and the other chimpanzees she studied in Tanzania's Gombe Stream. She was the first scientist to observe that chimps not only use tools but make tools. And she was the first to discover that chimpanzees hunt other animals. In three decades of field study, Goodall revolutionized the study of primates and forced people to re-think what it means to be human. As Stephen Jay Gould said, "Jane Goodall's work with chimpanzees represents one of the Western world's greatest scientific achievements."

Goodall's appeal, though, has always stretched beyond her scientific accomplishments. Partly it stems from those old National Geographic shows of the lone white woman out in the bush with these wild apes. The cultural critic Donna Haraway once wrote, "There could be no better story than that of Jane Goodall and the chimpanzees for narrating the healing touch between nature and society," though Haraway went on to say that our fascination with Goodall also played on Western stereotypes about Africa: "It is impossible to picture the entwined hands of a white woman and an African ape without evoking the history of racist iconography."

Goodall has remained a fascinating figure partly because she's always kept one foot outside of mainstream science. She's an outspoken advocate of animal rights and also the rare scientist who talks openly about mystical experiences - from her transformative encounters in the wild to a ghostly vision she once had of her dead husband. Now in her mid-70s, Goodall is a larger-than-life figure who looms over the field of primatology. Today, she spends little time with her beloved Gombe chimps than traveling the world as a U.N. messenger of peace, campaigning for environmental causes and promoting her Roots & Shoots program for young nature lovers.

I caught up with Goodall after she received the Leakey Prize, awarded to "scientists who transcend the boundaries of their disciplines." The prize was fitting since it was the famed paleontologist Louis Leakey who gave Goodall her first big break.

Back in 1960, you seemed to be the most unlikely candidate to revolutionize our understanding of chimpanzees. Why did Louis Leakey pick you to do this field study?

He told me later that he deliberately picked somebody with no university training because he wanted to send somebody into the field with an unbiased mind. Back in the early Sixties, the ethologists of Europe were very reductionist. Complex behavior was not really accepted. Of course, I hadn't been taught that animals didn't have personalities and feelings. I hadn't been taught that only humans had minds. And so I merrily just recorded what I saw, rather than

worrying about what I ought to be seeing.

Did you have much scientific training when you first went to Gombe?

I didn't have any. None. I left school at 18. I got a course of training as a secretary. I got a job in London with documentary films and then decided I had to get to Africa when I was invited by a school friend. So I left my job in London, which didn't pay very well, went home, worked as a waitress, saved up my wages and tips, got a fare to Africa, and there, I met Louis Leakey.

But if you had been a Ph.D. biologist, do you think you wouldn't have noticed the chimpanzees' personalities and feelings?

I can't imagine that because I grew up with animals. I had a teacher, who was my dog. But I might have become intimidated by this male-dominated discipline had I been through college. Who knows? I'm not someone who easily gets intimidated. I knew that chimps had personalities, minds and feelings. And I had a wonderful supervisor who taught me how to express myself so that the more rigid scientists couldn't tear me apart. I was very naive at first.

What did your supervisor teach you?

I wrote that Flo had a baby and the baby's eldest sister Fifi was very protective of that baby. And if other youngsters came up, she was jealous. She chased them away with bristling hair and screams of anger. Robert Hinde said, "You can't say she was jealous because you can't prove it." I said, "Well, OK. But I know she was jealous. So what shall I say?" And he said, "I suggest you write, 'Fifi behaved in such a way that, had she been human, we would say she was jealous.'" Now that is so brilliant. He taught me how I could protect myself and at the same time express what I believed to be true.

As I've read the accounts of your early field work at Gombe, I'm struck by how much time you were out in the field, alone with the chimpanzees.

It was absolutely amazing. It wasn't only a beautiful place, surrounded by this timeless world, but also, everything I saw with the chimpanzees was new. I mean, how lucky can you get?

Didn't they just run away from you when you first approached them?

Oh yeah. They'd never seen a white ape before and they were horrified. They vanished into the bushes. Fortunately, one of them - I named him David Greybeard - lost his fear before the others and came to my camp, where he found some bananas. And it was because of him that the others gradually began to lose their fear. So it was as though he helped me open a door into a magic world.

Some of your early discoveries - that chimpanzees use tools - involved David Greybeard. Can you describe the first day you saw this?

It had been raining. I was pushing through some tall grass and suddenly I saw this dark shape hunched over the golden soil of a termite mound. I peered through the bushes with my binoculars and saw a hand reach out and pick a piece of grass. I could see him pushing it down into the termite mound. After he left, I went over there and saw termites crawling over the surface of the mound. There were some stems lying around, so I poked them down and the termites bit on them. A couple of days later, not only did I see David Greybeard using the tools but actually stripping leaves from a twig, therefore making a tool. That was the exciting thing. Up until then, it was thought that only humans used and made tools. We were defined as man the tool-maker.

You also discovered that chimpanzees hunt. Did anyone know this before you saw it?

No Western scientist knew. I think the local people knew. But it was very exciting the first time I saw it. They hunt young pigs, young bushbuck, and they share the prey after they've had a successful hunt. They beg, with gestures like we use. And the meat is shared.

Some years later, you found that chimpanzees can be a lot more aggressive than people had known. Some of your colleagues saw that chimpanzees will even hunt and kill other chimpanzees.

That was very disappointing to find that, just like us, they have a dark side. The first accounts were of male chimpanzees patrolling the boundary of their territory and catching a female from a neighboring social group - a stranger - and subjecting her to such a violent attack that she later died of her wounds, and taking her baby and killing it. It was a total shock. Soon after that, the community divided. The smaller group took up residence in the south of the range. And four years later, the males of the larger community systematically hunted down, attacked and killed all of the breakaway males - seven of them, and two females.

These were all chimpanzees that had once lived together. They had been intimate with each other.

It's like a civil war. And civil wars in human society are the worst. This was horrible.

How do you explain what happened?

I think it was territorial. The southern community had taken over part of what had once been shared range. As soon as the southern community was annihilated, the northerners moved back into the territory with their females and young. It's very human, isn't it?

It must have made you wonder about how violent humans can be. What conclusions did you come to?

When I first started publishing the descriptions of those attacks - that four-year war - various scientists suggested that I didn't need to publish it. They said that if you publish this, certain people will use this information to show that aggression is hard-wired. Certainly, if you look at

human behavior around the world, you have to admit that we can be very aggressive. So it goes back to Louis Leakey's premise when he sent me: If we find behavior common to chimpanzees and humans today, perhaps it was present in our common ancestor six million years ago. If that's so, perhaps violence has been with us all the way through human evolution.

But does that mean that war and violence are inevitable? I would argue not because we have also evolved this amazingly sophisticated intellect, and we are capable of controlling our innate behavior a lot of the time. Chimpanzees equally show tendencies of love, compassion and altruism, so we have these from our ancient past as well.

It's striking that Louis Leakey picked three women to lead pioneering primate studies: you with chimpanzees, Dian Fossey with gorillas, and Birute Galdikas with orangutans. Was that just coincidence?

No, not at all. He felt that women made better observers, and he liked working better with women. So he deliberately chose women.

Do you think he was right?

If you look at women in an evolutionary perspective - and I compare chimp mothers with human mothers - you find that a mother needs to be patient. Otherwise her children won't do very well. A woman needed to understand the needs of a nonverbal creature - our children before they can speak. And women, even if they've been subjugated, have been quick to recognize the little communication signals in a household to prevent arguments before they blow up - to keep children out of the way of irritable men. So all those characteristics would be useful.

And when I began, most women didn't have careers. So you could afford to go sit in a forest and expect that a white knight would come along with shining armor and gather you up and look after you for the rest of your life. Whereas men, they were the breadwinners. They had to finish their field research, get a Ph.D. and get a job.

There was another convention back in the '60s. Scientists were not supposed to get emotionally involved with the subjects they studied. It seems that you violated that rule in your study of chimpanzees.

I didn't know about that when I began. I'd just done biology in high school. But I'd watched animals all my life, long before I watched chimpanzees. And I think having empathy with the creature you're watching is an immensely powerful tool. It gives you a platform from which you can start asking questions. Especially with chimpanzees, our nervous system is almost identical. Their brain is just a little bit smaller.

You were studying mother-infant interactions of chimpanzees, and then you had a child of your own. You raised him at Gombe while you were doing these field studies. Did you learn anything about raising your own son from the chimpanzees you studied?

I'm quite sure I did. I really looked on Flo as a role model. She was patient and supportive.

She was protective but not overprotective. She could impose discipline when she wanted. She provided a nice secure base for her kids. And she supported them when they got into difficulties. That's a hallmark of a good mother. But looking back on it, my own mother raised me much the same way, so I don't know if I really learned from Flo.

You've written about the death of Flo and the impact it had on some of her family members. How did it affect her son Flint?

Flo, at the time of her death, looked older than any other individual we've observed at Gombe. She was probably close to 50. Chimpanzees don't have a menopause, and it's interesting to consider how useful menopause is in a long-lived species. Because Flo gave birth to an infant when her previous child, Flint, was only four and a half, she didn't have the strength to wean Flint. She didn't have the strength to nurture this embryo inside her and push Flint toward independence. So when he threw violent tantrums, she allowed him to suckle and to ride on her back. And then, when the infant died at six months, Flint was still sleeping with her, and she just took him back and treated him as though he was an infant. So he developed this strange, abnormal dependency on his old mother.

When she died, he was eight and half years old, but it seemed he simply couldn't cope without her. And he showed signs of clinical depression. He rejected food, he rejected the approaches of other chimps. And in this state, which I can only describe as grief, his immune system weakened. He fell sick and was dead within a month of losing Flo.

He was simply too sad to live anymore.

He was too sad. I'll never forget seeing him about five or six days after she died. He climbed very slowly up a tree. He was already a little sick, and he got to a nest, which he'd shared with his mother about two weeks earlier. He just stood there looking at that nest. You can only wonder what was going on in his mind. Then he turned around and walked very, very slowly along the branch, climbed down to the ground and curled up in a little heap. It was heartbreaking. We sat with him, we offered him food, but he did get some sickness and we couldn't help him.

You had known Flo for many years. How did her death affect you?

I sat with her body. We found it at the edge of the stream, and I sat there during the day and also during most of the following night - to see the reaction of other chimpanzees and also, I didn't want the pigs to eat her. It was like losing an old friend.

Your research showed that chimpanzees have sophisticated emotional and mental capacities, which raises a big question: How unique are human beings?

It's the explosive development of our intellect that sets us apart. I personally believe that this happened because we, and only we, have developed the kind of language that enables us to teach about things that are not present, to tell stories, learn from the past, plan the distant future and

perhaps most important of all, gather together a group of people to discuss a new idea. That has really stimulated the growth of the intellect.

So if this is what makes us more human than anything else, makes us the most intellectual being that's ever walked the planet - able to arrange the environment to suit our needs, able to create technology to go to the moon - then why are we destroying our only home? That is so unintelligent of us.

Do we need to revise our definition of consciousness so that it includes the great apes?

Maybe we should include the great apes. Maybe we should extend certain rights to them that we agree are human rights. I'm always pushing for human responsibility. Given that chimpanzees and many other animals are sentient and sapient, then we should treat them with respect. But we don't even treat each other with respect. We have all these barriers between cultures and religions and nations, and between us and the natural world.

What are the moral implications of treating other animals with more respect - especially sentient beings like the great apes?

We should not be torturing them in medical research labs in five-foot by five-foot prison cages. We should not be taking them from their mothers and dressing them up for circuses of entertainment. We should not be buying and selling them like slaves for pets. And we shouldn't be killing them for food or for the live animal trade in the African forests. But we're doing many of those things to our own species as well. It doesn't make either of those things better.

When you were at Gombe, did you find yourself wondering what was going on inside the minds of chimpanzees?

Constantly. We can guess what they're thinking, but how do they think? Are they thinking in pictures? How do you think without words? I spent ages wondering about that.

Were there any particular moments when you felt like you got a better understanding of that?

One moment was very special. That was when I was sitting in the forest with David Greybeard and I picked up a fruit and held it out to him. He turned his head away and I put my hand closer. He turned, looking directly into my eyes, and reached out, took the fruit and dropped it. He didn't want it. He then very gently squeezed my hand, which is how chimpanzees reassure each other. So in that moment, we communicated with a language - or in a way - that seems to pre-date words, perhaps in a way that was used by our own common ancestor millions of years ago. It was an extraordinary feeling. It was bridging these two worlds.

You seem to be very drawn to the idea of knowing the world without language or words.

I am fascinated by it. I always have been. We think with words. But when we don't think with words, I think we come close to what mystics might describe as a mystical experience. I don't think words would come into that.

Did you have mystical experiences at Gombe?

Yeah, sometimes. But it's awfully hard to describe because words aren't there. It's a feeling of complete oneness with the natural world, and being able to hear it better and sense it better and smell it better and be better.

Can you tell me about one of those moments?

One was when I'd been following a little group of chimpanzees and I was wet. In the evening, they climbed up into this tree, which had beautiful lime green shoots. The sun behind them was making them shine and the trunks of the trees were still wet and shining black ebony. And the chimpanzees' coats were black ebony shot with little gleams of chestnut. The smell of ripe figs was strong in the air. Then this beautiful male bushbuck appeared with his coat dark with the rain, his spiraled horns gleaming, and just stood there. It seemed I could hear the insects loud and clear, much differently than usual. And the birds. And each leaf with its pattern of veins. It was incredibly vivid, being at one with that beautiful world.

It sounds like you lost your sense of your own self.

That's it. Totally losing sense of one's own self. That's the only way I can really study animals. Because if I'm on my own, I forget that I'm there. I'm with them. I'm not considering that I'm there. I'm just considering them.

In your book "Reason for Hope," you speculate that chimpanzees might also have spiritual lives of their own. You've written, for instance, about a beautiful waterfall they go to. You suggest that they may even have some experience of awe.

Well, they sometimes pass there when they go from A to B, but it's what happens when they're near that. You can hear the roar of the falling water. It falls about 80 feet. The chimpanzees, usually the males, will bristle a little bit with excitement. And as they get near, they start these rhythmic displays, swaying from foot to foot, often upright. They may climb the vines and push out into the spray. And afterward, they may sit watching the water as it falls, watching as it flows past them. What is it? What is this strange substance which is always coming and always going and always here? You can't help feeling that if they had a language like ours, they could discuss whatever feeling it was that led them to these dramatic displays, which would turn into some kind of animistic religion. Watching these displays, you can't help feeling that it must be something that we would describe as awe or wonder or amazement, which can turn into the worship of things that we don't understand.

It makes you wonder if our own ancestors millions of years ago had similar experiences.

I would bet they did. I think we still do. But we immediately describe them with words.

Has that made you wonder about the origins of religion?

Yes, I think it probably originated something like that. Because we have language, because we like to explain everything, we describe experiences in terms of a spiritual or religious experience. Whatever is inside us that makes who we are feel different from our mind, we call a soul or a spirit. And if we have souls or spirits, then I suspect that chimpanzees do, too. I've always felt that if I had to describe what it is, I would say it's a little spark of a great spiritual power that I felt so strongly around me when I was out in the forest alone. Probably that little spark is in all living things. And it's we, with our passion for describing everything, that decided to call it a soul or a spirit.

It's unusual for a scientist of your stature to be so upfront about your own spiritual views. You've written about how you were raised in an open-minded Christian family. How has your sense of spirituality evolved over the years?

I don't spend that much time being introspective, believe it or not. All I know is that I grew up not questioning God because that's how you are. God was there like the birds and the wind. Then I was in Gombe, spending all that time alone out there with nature, and just feeling a very strong sense of something other than me that was out there.

You've also written about a transformative experience you once had at Notre Dame in Paris. What happened there?

It was not a peaceful time of my life. I went there early in the morning, just as the sun was coming in the great rose window. And it was Bach's Toccata and Fugue in D Minor from the organ that suddenly filled the cathedral. There was a wedding, though I just heard this music. You know, I can't accept that the humans who built that amazing cathedral and wrote that music, and the people who'd prayed there for hundreds of years, I couldn't accept that it was all chance - little bits of matter dancing around that suddenly somehow turned into this amazing experience. Therefore, if it wasn't chance, then it was anti-chance, which means something like God. But as I'm not a theologian or a philosopher, I don't really have the words to explain what I mean.

You seem to be convinced that there's some underlying purpose to our existence and to the universe.

That's what I really strongly feel. And I feel that for some extraordinary and peculiar reason, I have been almost pushed to do what I've done. I look back over my life and see the stages that led seamlessly from one to another to another. I suppose I could have said "no" and chosen a different way. But it just seemed inevitable to bring me to what I'm doing now, which is crazy, really.

What do you say to all those biologists who think it's just an evolutionary accident that

human beings ever evolved?

I don't get into discussions with them because I don't really care. I just feel this way myself. It helps me to believe there's a purpose. I don't want to argue with them. I don't really mind what they believe.

But you're taking me away from everything I'm trying to do now, which is trying to get people to roll up their sleeves. People often ask me, "OK, do you believe in creation or God?" And I always say quite honestly, how we got to be who we are is so much less important than getting together to get ourselves out of this horrendous mess that we have put the planet in. We're reaching the point of no return. We've got to roll up our sleeves. We've got to take action. We can't afford to sit back and philosophize too long about how we got to be the way we are.

But it's so rare for a scientist to talk about these things. You've written, for instance, about a remarkable experience you had, a vision of your husband Derek after he died. Can you describe what happened?

Yes, it was extremely strange. I'd gone back to Gombe because it's very peaceful to be out in nature with chimpanzees who aren't questioning you or sympathizing with you. They're just getting on and being and doing. You get this feeling of the cycles of life and death. But I was woken up at night and there was Derek talking to me, very happy. I couldn't see him. At least I don't know if I could, because all I remember is waking and thinking, "I've got to write this down. It's fantastic." And then this feeling that you get when you're about to faint, this roaring in the ears. And then, I don't know if I fell asleep again or what, but I started remembering. And when I started remembering, the roaring came back. So I went to sleep again, and I couldn't remember anything he'd said. I'd vividly remembered what happened, but I couldn't remember any words.

I talked to a very strange lady - a medium - who said exactly the same had happened to her when her husband died. She had tried to get out of bed to write it down, and had gone into a coma and nearly died. So I said, "Goodness, don't get out of bed if it happens again!" And I asked, "What do you think it was?" She said, "I don't know, but maybe I was trying to move from one plane to another." You know, I'm not going to go deeply into exactly what happened. I don't know. All I know is that something happened which gave me this strong feeling that there is something that continues after we die.

And you're convinced that wasn't just a dream you had?

No, it wasn't a dream. And it was strange that she had exactly the same feeling. Of course, we read these books about lights at the end of tunnels, and the "Tibetan Book of Living and Dying." I've been with so many people who accept this absolutely as a matter of fact.

I'm willing to bet that you get a lot of flak from scientists for talking publicly about this kind of thing. Do you worry about that?

No, I don't care. I never have. And I think it's very helpful for a lot of people who do have a religion that they find my books extremely helpful.

Today, you are more an activist than a scientist. You travel constantly, talking about environmental concerns and animal rights issues. What do you see as the biggest impact you can have right now?

I always think there are two. One is going back to my roots. Because I had this opportunity to work with chimpanzees, it has given people a different way of looking at animals and understanding them better. And the other one is working with youth and giving people hope. There's hope when we realize that every one of us makes an impact on this planet every single day. We have a choice as to what we buy, what we eat, what we drink, what we wear, how we get from A to B, how we interact with people and animals. These small changes in lifestyle can add up to the kind of change that we need.

How have some of these issues played out in your own life - what you eat, what you buy, what you wear?

In the early 70s, I read Peter Singer's book "Animal Liberation." Once I learned what factory farms did to cows and pigs and hens, I was totally horrified. I looked at the piece of meat on my plate and I thought this is symbolic of fear and pain and death. I never ate another piece of meat. I'm not a vegan. I'm a vegetarian. And try to think about buying a cheap garment. Was it cheap because it involved child slave labor? Have products that you just pick up off a shelf caused destruction to the environment? If we would try to think about the consequences of our actions, it would make a big difference.

How are the chimpanzees at Gombe doing now?

Not that well. There were 150 in three communities when I arrived. The main study community is in the middle of a long, thin strip of forest, and it's about the same as it always was. But to the north and the south, where chimps have come up against cultivated fields which now completely surround the tiny 30-square mile park, those communities have dwindled. So there are only a total of about 100 chimpanzees at Gombe today.

We're trying to ensure their future by working with the people living around the park. They are very poor people. They can't afford to pay for food elsewhere, so they've degraded the land. We can't really hope to save the chimps unless we can improve the lives of these people. So now we're in 32 villages with our Take Care program. We provide information about farming practices most suitable to this degraded land, information and help for water systems and sanitation, we provide microcredit for groups of women so they can start their own small environmentally-sustainable projects, scholarships for girls so they can stay in school - concentrating on women because all around the world, family size drops as women's education improves.

The final piece in all of this is that up in the high hills a very good coffee is grown. I was able to

persuade some coffee roasters - primarily Green Mountain coffee roasters - to come and test the coffee, buy it, help to improve the farming practices for harvesting and storing the coffee, and provide a good price for the first time. As a result, the villagers are setting aside between 10 and 20 percent of their village land for regeneration of forest or protection of the last little patches. We've done it by deliberately helping them in the way that they wish, not going in and telling them what a bunch of white people want to do, but with our Tanzanian team listening and asking, what would make your lives better? It didn't start with conservation at all. It was health and their children's education. That's where we began. Now, these people are our partners. They're fascinated by the chimpanzees. They realize it's part of their heritage. They realize it's because of the chimpanzees that we're there in the first place. They're grateful and they're putting land aside for the chimps.

What advice do you have for kids who would like to do what you did - to become a naturalist and study animals?

Don't just learn virtually. Don't just learn from your TV screen. Go out and watch. Even if you're in the middle of an inner city, you can grow things and watch how they grow. You can study pigeons or trees out in the streets. There's always a way of getting out there and feeling the earth, and learning something about the natural world. It's so important.