

**2011 Personal Histories  
28<sup>th</sup> of April  
Babbage Lecture Theatre  
University of Cambridge  
An Oral History of Primatology at Cambridge  
Part II**

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**Jane Goodall**

Thank you Bill. Do you remember why I called him woof, woof? (Audience laughter)

**William McGrew** The Barker.

Oh yes. The barker. I had forgotten that story. (Audience laughter) Thank you for that. Let's do a little more reminiscing here because this last July 14<sup>th</sup>, was the 50<sup>th</sup> anniversary of when my mother and I first set foot on the shore of Gombe. How amazing. Fifty years. Learning about, learning from our closest living relatives, one population of our closest living relatives, a study that has continued virtually unbroken . . . after the kidnapping, there were maybe two days that no notes were taken. And, we are still learning about these chimpanzees. That is what is so amazing.

As you can perhaps imagine, when I was there at Gombe last July on the 14<sup>th</sup>. I spent quite a bit of time by myself and I was thinking, I was reminiscing. I was thinking about what has happened since that first day in July 1960. Of course, one of the things, quite clearly, is that so many of the people both human and animal that were around at that time are no longer around. I thought a lot about the role of my mother. When I was a little girl growing up in England to a family with very little money, I always loved animals. Lots of little girls love animals. Little boys too as a matter of fact. I had a very wise mother. I attribute so much of any success that I have had in my life to the wise way that she raised my sister and me. When she came to my room one day when I was one and a half years old and found that I had taken a whole handful of earth worms to bed with me, (audience laughter) instead of saying "Yuk, throw them out; they are dirty!" she just said very quietly, "Jane, if you leave them here they are going to die. They need the earth." And, so, together we took them back into the garden.

And, I know some of you know this story, but it really does express the wisdom that she had. We had gone for a holiday to stay with some people on the farm. I was four and a half years old. We lived in London so this was really exciting. Can you imagine for a little girl loving animals, coming from London, we had a dog and there were obviously some sparrows and pigeons and things like that, but now, cows, pigs and horses. And, I was given a job. I had to help collect the hens' eggs. In those days, there were no cruel battery farms. The hens pecked around in the farmyard. They were supposed to lay their eggs in these little hen houses where they also slept at night but very often we would have to hunt around in the hedgerows to find the eggs. But each day I was collecting some eggs from the hen houses, putting them in my basket. I don't remember this, but apparently I was going up to everyone and saying, "but where does the egg come out of the hen?" I couldn't see a hole that size. (Audience laughter) Obviously nobody answered to my satisfaction. This is what I do remember. It is extraordinary what you can remember, from the time when you were a child, particularly if something happens to trigger that

memory. I saw a hen and she was going up this little plank which was then closed at night to keep the hens safe from the foxes. I thought, "Ah, she is going to lay an egg." So, I crawled in after her. This was a big mistake. It was not the sort of thing that the hen expected to happen (audience laughter) and with squawks of, I suppose fear, she flew out. And, I remember so distinctly thinking, if I stay here, no hen will come in because this is a frightening place. This is a little four and a half year old girl. So, I climbed into an empty hen house. I am obviously now on the trail of something and I am not going to give up so I went into an empty hen house and I waited. I don't remember how long I waited but the family does because the family didn't know where I was. (Audience laughter) They were frantic. They even called the police. My mother said that it was at least four hours that I was gone. Dusk is falling and you can imagine how scared she must have been, everybody searching, the police on their way. She sees this little girl covered in straw rushing towards the house; how many mothers would just out of sheer nervous tension seize that child and say, "Don't you ever do this again. Don't you know how worried we have been?" which, of course, would have killed the excitement. But, she saw my shining eyes and sat down to hear the story of how a hen lays an egg. (Audience laughter)

If you look back on it, that was the making of a little scientist, the curiosity, asking the questions, not getting the right answer, deciding you will have to find out for yourself, doing it wrong, not giving up and learning patience.

So, I think I came into my study of animal behaviour just like Robert, through birds, but a different kind of bird in a different kind of way.

At any rate, one thing led to another and, again, my mother showed her wisdom. She found the books that she thought I would be interested in and then she thought that Jane would learn to read faster. Well, of course, she was absolutely right. I can still remember Dr. Doolittle. I wanted to learn animal language. I begged my family for a parrot so that I could be taught like he was taught by Polynesia. And, of course, we couldn't afford a parrot; anyway we shouldn't have as pets but I didn't know that then. So, for a long time I pretended that I could understand the animals. And, I translated their language to my friends. (Audience laughter) They believed me. They believed what the squirrels and the cats and the dogs were saying because I told them. (The audience loves this.)

Well, then I found the books about Tarzan. I think, you know, I can't remember, Richard or Bill, one of you mentioned the fact that there were no modern technologies at Gombe like CD's. When I was growing up, there was no TV. Lots of kids today can't believe that. There was no TV. I found the books about Tarzan. Everybody knows Tarzan today growing up because they watch TV. I don't think Johnny Weissmuller had appeared on the British theatre screens at that time. So, I read the books. And, of course, I fell passionately in love with this glorious lord of the jungle. And, what does he do? He goes and marries that other stupid wimpy Jane. (Audience laughter) I was extremely jealous. That was when my dream began. I will grow up. I will go to Africa. I will live with animals. I will write books about them. It seemed utterly impossible. Everybody laughed at me. I was always talking about it and they would say, "Why don't you dream about something you can achieve?" And, it is not surprising. This is now going back to when I was about 11 years old. I was born in 1934. So, you can work out the year. At that time, well, we didn't have any money as I have said. World War II was raging. Africa was still the "Dark Continent". We really didn't know much about it at all except from some people who went out as District Commissioners and things like that. But, the most serious obstacle, the

reason that everybody laughed at me, is that back then, girls simply didn't do that sort of thing. Boys could look forward to adventures like that but girls basically couldn't. And, I was always asking at school how I could get to Africa and study animals and everyone laughed at me. But, not my mother. She would say, "If you really want something, you work hard and you take advantage of opportunity and you never give up, you will find a way." This was the wisdom that she imparted into my young life.

I didn't go to university when I left school because we couldn't afford it. And, I don't know if this was true for Cambridge but certainly for most universities back then you needed a foreign language to get a scholarship. And, we couldn't afford it otherwise. Again, it was my mother. She said, "Do a secretarial course and then maybe you can get a job in Africa". So, that is what I did. I landed up with a job in documentary films which is incredibly useful for all the hundreds of film teams that I have had to entertain at Gombe ever since. It was actually nothing to do with secretarial. It was great. But, then came a letter from a school friend inviting me for a holiday to Kenya where her parents had just moved.

And "yes" that was the opportunity.

I was working in London. You couldn't save up money in London back then. It is not very easy today either. So, I went home, worked as a waitress in a hotel around the corner and finally had enough money for a return fare to Africa, by boat, because that was the cheapest in those days.

I was 23, probably quite a lot of you in here are 23 now and that was when I said 'goodbye' to my family, my friends and my country and set off on this amazing adventure. And, I like to think of my life as an adventure today, like every day. You never know whom you will meet, what you will learn, what you will encounter, but that first adventure, sailing out, like Dr. Doolittle on his boat to Africa! And, we had to go all the way around Cape Town because it was during the Suez War and the Suez Canal was closed. I mean the war with Egypt; the Suez Canal was closed. So . . . a three-week adventure, seeing flying fish and dolphins and landing in some of these romantic sounding ports and then getting to Kenya, and, yes, to cut the story short, hearing about Louis Leakey. Somebody said that if you are interested in animals you should meet Louis . . . so going to meet him.

I had followed my mother's advice. All those years when I was in London, I had been learning about Africa, reading books, reading about African animals, and spending hours in the Natural History Museum in London. So, when I went to see Louis at the Coryndon Museum, he was Curator, he asked me questions about all these animals and birds and things. And, I could answer a lot of them. So he gave me a job as his Secretary. That is how it began.

One thing led to another and he said, "All right, Jane, you can come on this annual expedition to Olduvai Gorge." Now Olduvai Gorge, to anyone who is interested in palaeontology today, is a very famous place. It was where *Zinjanthropus boisei* and some other famous fossils were found by the Leakeys but back then no human fossil had been found, just the fossilized remains of various animals and some pebbles which Louis and Mary Leakey were insisting were stone tools but nobody else believed them.

So, Olduvai wasn't on the map. And all the animals were there back then. I mean how lucky is it to have experienced Africa at that time! I was allowed to walk out with Gillian, one other

young girl after our hard day's work looking for fossils, onto the plains. Walking. There were the antelopes and the giraffes. One evening there was a rhino. One evening there was a young, male lion, about two years old, with just these little tufts of hair coming off his shoulders, curious like any cat, never seen anything like Gillian and me before. He followed us, much longer than the length of this auditorium, which was a bit scary but, oh, so exciting! And, I truly believe that that is the day when Louis Leakey decided that I was the person he had been looking for to go and try to learn about chimpanzees. As Robert said, Louis Leakey felt that if we could find behaviour that was similar, or maybe the same, in chimpanzees today and human beings today, that maybe that that shared behaviour might have been present in the common ancestor about six million years ago. And, therefore, we humans may have brought that characteristic up through evolution with us as part of our genetic heritage.

Well, Louis Leakey's theory has held up pretty well. One of the fascinating things, looking back over the 50 years, is that chimpanzees are so like us in so many ways. Of course, there is this extraordinary genetic similarity, now that the genome has been unraveled, of humans and chimps. My geneticist friends tell me that the chimps are even more like us than we used to think. It is mainly the expression of the genes which can be influenced by the environment. And the blood is very much the same. The brain, the structure, was almost the same except that ours is bigger. So, not surprising, then, that there are also all these similarities in intellectual performance, in emotional expression and in some aspects of behaviour, social behaviour as well.

That is what really made so many people, so fascinated with the chimpanzee behaviour. And it is said, always, all over the place, the Gombe stories are like following a soap opera. The National Geographic coming in and publishing their magazines and making movies and films means that people all over the world have heard about Fifi and Flo and Mike and all the other characters that you (turning to Bill) students used to imitate in your little plays. (Audience laughter)

So, as I said, I was at Gombe and was thinking back. I was thinking about all these tremendously fascinating chimpanzee personalities that I have had the privilege of watching over the years. But, I was thinking back to those very early days when it was just my mother and me and the cook Dominic and how the chimpanzees would take one look at me and disappear into the vegetation because they are very conservative. They haven't seen a white ape before. Although I was living in my dream world, there I was in this beautiful forest but I knew if I didn't see something really exciting before the first six months money that we had managed to get, before that ran out, that would be the end of the study and I would have let Louis Leakey down. And it was very hard for Louis to get the money. It didn't come from an academic institution. How could it? I didn't have a degree. I was straight from England. He had got money from an American businessman, Leighton Wilkie, for six months and he later said, "We will see how she does." And, it was very hard for Louis to get permission from what was then the British Administration. It was Tanganyika back then, part of the British Colonial Empire. And, they said "We are not prepared to have a young girl out here on her own. It could be dangerous out in the forest. The animals could be dangerous." That was why my mother came with me. She volunteered because in the end they said, "Well, we will let her come if she has a companion." So, that is why my mother came. And, I was thinking about those early days before learning about the chimpanzees and how fascinating they are. It was my dream come true. And, then, I think about my mother. We shared a tent. It was an ex-army tent. Any of you who go camping

today, you have these things, and you zip them up and the ground sheets are sipped in, pretty neat. But, this was an old ex-army tent and you rolled up the bottom of the flaps. The ground sheet was not sewn in at all. It was just a piece of canvas on the ground which meant that all the spiders and bugs and things could walk in if they wished and they often did . . . and snakes. My mother didn't like spiders and she didn't like snakes but there she was. I would go up into the mountains in the morning, happy as a sand boy, except I worried about not seeing the chimps, but I still loved it, and leave her all day on her own with the African cook. It is amazing. She did this wonderful thing for me. In those days, when I wasn't seeing what I wanted to see and I was getting desperate about "Would I be letting Louis Leakey down?" she would boost my morale. She would tell me about what I was learning, how chimpanzees make nests every night, how they move around sometimes in small groups, sometimes by themselves, sometimes small groups meeting up in this fusion/fission society, which, of course, I didn't know anything about the fusion/fission society. Remember I hadn't been to university. So, she was boosting my morale. And, it was very sad that this main observation that enabled Louis to get the money from National Geographic happened just after she left.

And that was dear old David Greybeard, my favourite chimpanzee of all time, the first who began to lose his fear of me, picking and using pieces of grass as tools to fish for termites, picking a leafy twig and stripping off the leaves, modifying that twig, making a tool. At that time, we were defined as "Man the Toolmaker". It was thought that only humans used and made tools. So, this was something that was very exciting for Louis with his theory of chimpanzees helping him to understand how Early Stone Age humans might have behaved. And, that is what enabled him to get money for us to continue the studies at Gombe.

Going back to that time, after we got money from the Geographic, I was sitting up in the mountains one day and Rashidi Kikwale, who was one of the wonderful Tanzanian staff at Gombe, he came up the mountain for a letter for me because it was so rare to get a letter. It was pretty exciting. And, I can remember opening that letter and it was from Louis Leakey; it took a very long time to read because if anybody has writing worse than a doctor, it was Louis Leakey. (Audience laughter) You had to take a run at it and sort of guess what it meant and then go back and try again. At any rate, I managed to decipher that I would have to stand on my own two feet one day. He would not always be around to get money for me. Therefore, I had to get a degree but there was no time to mess about with a BA and he got me a place in Cambridge to do a Ph.D in Ethology. What was Ethology? I hadn't the faintest idea? (Audience laughter) There was no email back then. We had to communicate by telegram if we wanted to. Do you know what a telegram is? (Audience laughter) Some of you don't.

That is how I got to Cambridge. Poor Robert was landed with this naïve, young woman, with her pages and pages of longhand descriptions about chimpanzees with no understanding of scientific method. Yes, of course, I threw the pages away. You always wrote in red by the way. (Audience laughter) My pages were covered in red. But, what was fascinating about the relationship that I had with Robert back then, yes, I threw them into the corner and I got mad and said, "Is it worth going on? I want to be back with the chimps." But, then, I would think about what he had written. There were occasions, Robert, when I probably disagreed with your red notes but mostly you got through to me. We had this wonderful relationship where you somehow moulded all this knowledge I was acquiring and helped me to understand the scientific method. One thing that you said then, which I have never forgotten, and I have taught so many of my students . . . I had written something frightfully naïve about Flo having a new baby and

Fifi, the older sister was six years old and absolutely fascinated and was always close to Flo. She hardly ever left her side. If another young one came up to try and look at the baby, Fifi would get jealous and chase it away. And, you said to me, “Jane, you can’t say that. You can’t prove that she was jealous.” And, I said, “Well no, I suppose I can’t but I know she was, so what shall I say.” And, you said to me, “Jane, I suggest you write Fifi behaved in such a way that had she been a human child we would say that she was jealous.” (Audience laughter) That is brilliant. And I have used that ever since. It has stood me in good stead. (Audience laughter) Robert taught me how to write about my convictions in such a way that I wouldn’t be torn apart by other scientists at that time who basically resented this young woman coming in with no credentials and somehow managing to get a Ph.D at Cambridge.

So that was how I got into Cambridge. Thinking back again, as I have been doing so much this year, thinking of the changes at Gombe, we have already through Richard’s eyes and Bill’s eyes, and Robert too, seen some of those changes. At first, it was me with a notebook and a pencil and a pair of very old second hand binoculars because there was so little money when I first went. I remember the first time I got a little bit of money I bought a telescope so that I could actually sit on one side of the valley and see what was going on on the other. And, that was very exciting.

Then, of course, the check sheets were introduced. Robert introduced the check sheets. I think, but I’m not sure, Richard, it may have been you who introduced the maps or was it Geza Teleki? It was Geza, wasn’t it who introduced the maps. We were sort of pioneers. There weren’t any other studies quite like this. So, with this collection of students who somehow heard about Gombe and somehow came and saw me. We didn’t accept all of you. My mother came and interviewed a lot of students and some of them she said, “No, no, no.” (Audience laughter)

At any rate, between us we devised these methods and over time, Robert Hinde and Dave Hamburg came and put a little bit more order and structure into what we were doing. Everyone had his or her own ideas. It really was an exciting time because, you know, it was so wide open. We were so open to ideas from different people, as long as the chimpanzees were not disturbed, or the baboons or the red colobus. And Tony Collins should have been up on this platform because Tony has been researching the baboons since 1972. He is known as the ‘Guru of Gombe’. He is so much part of Gombe today. He is so much part of this long history of Gombe.

And, what have we discovered? Well, we discovered all this biological similarity between humans and chimps but we have also discovered these amazing differences between the personalities of the different chimpanzees, differences in intellectual performance. We have got to learn more about these communication postures and gestures so like ours, kissing, embracing, holding hands, patting one another on the back. A little story here, three weeks ago in Washington, D.C., I met the President of the World Bank. Everybody said to me, “Jane, I think he may be shy but he is very stiff, he never looks you in the eye. Nobody can really communicate very closely with him. He does love tigers and he cares about biodiversity but he is a very difficult person to interact with.” Well, within about five minutes, I was teaching Bob Zoellick, how a chimpanzee greets. I made him be a big strong male and I was a subservient female (audience laughter) and he was patting my head. And, he totally ‘unbent’. My ten-minute meeting with him turned into an hour. That is going to benefit Gombe hugely I may say (loud audience laughter and clapping), not just a truckload of furniture but cases and cases of lovely dollars.

Anyways, there isn't time to ramble on, you know, it has been fascinating for me looking back, seeing changes in technology where initially we started talking about Pooh, Richard, Pooh Bear. We used to look through the feces of the chimps to see what they had been eating. Then it became possible, still using poo, to send it off to a lab and do DNA profiling. For the first time we now know whom the fathers are. And, this is really exciting. And, also, looking at the stress hormones which we can see through poo and learning about some of the diseases of the chimpanzees just through examining poo. I think all field biologists spent a lot of time messing about with poo. (Audience laughter) If you don't like messing about with poo don't be a field biologist; it won't work. (Audience laughter)

So, learning about all these amazing chimpanzees, all the similarities, using the different technologies as they became available to us, learning that chimpanzees have the chimpanzee version of SIV. We used to think that when they were infected with this SIV and we do know by the way that HIV1 and HIV2, which have led to the human AIDS pandemic, have originated from the SIV retrovirus of the chimpanzees in two different parts in Africa. And, it was a shock to find that the Gombe chimpanzees are infected and it now seems that when they are infected, they are dying earlier. There is a lot of work going on now to see how the infection is passed from one to the other.

We are now able to use GIS, GPS and satellite imagery to make amazingly detailed high-resolution maps. That leads me into the final piece that I wanted to say this afternoon. As you know, I'm not at Gombe anymore. I visit twice a year just for a few days. Why am I no longer in this place that I love, out there with these chimpanzees, learning from them? Because in 1986, there was a conference in Chicago, where for the first time, we brought together all the people studying the chimpanzees in different parts of Africa. There were about seven studies at that time, something like that. One by one, they showed slides of what was going on in their particular field study site, and everywhere, it was the same picture. There was habitat destruction, there was the beginning of the bush meat trade, that is the commercial hunting of wild animals for food and it became increasingly clear as this session on conservation continued that the chimpanzees were losing out. We know now, where there was somewhere between one and two million a hundred years ago across what was an equatorial forest belt, right across Africa, now it is not a belt, it is a collection of ever decreasing forest patches. Many chimpanzees are in small, fragmented populations and the maximum number is probably 300,000. Human populations are growing all the time. And, it was realizing this and having a session on conditions in some captive situations, seeing chimps in medical research in five foot by five-foot cages, imprisoned basically for life and they can live for more than 60 years. What is their crime? Just being so like us that some scientists have felt it convenient to use their bodies to learn more about otherwise uniquely human infectious diseases and search for cures and vaccines, not wanting to admit these similarities and intellectual ability and emotional expression and response means that to put a being like that in a five-foot by five-foot cage with very little enrichment is not an ethically acceptable practice.

So that is why I left Gombe. I felt that I have gained so much from the chimpanzees, now it is my turn to try and pay something back, travelling first in Africa. I was travelling around with a sort of one-man exhibit called "Understanding Chimpanzees" going to as many chimpanzee range countries as I could, funded by the energy company, Conoco, (which was acting in an incredibly responsible way in Congo Brazzaville), and setting up this exhibit and having a conservation awareness week and trying to get a Head of State if possible or VIP to open it.

For the first time very often, bringing together all the different people involved in conservation in a particular country. I know that was true in Uganda because they all said so. We had sessions where they all came together. Some of them said, “We didn’t know that somebody else was doing what we do, let’s do it together.” But, of course, travelling around Africa like that, I was learning more and more about Africa’s problems too. And, so many of Africa’s problems actually can be traced back to the Colonial era and we know that some of Africa’s problems today are still imposed from the outside, sometimes by the big multi-nationals and sometimes it is just politics. We are still taking from Africa. Taking non-renewable, natural resources and the poverty is increasing. And, the old cultures have been destroyed. There is a vicious cycle of poverty and over population. There are hundreds of thousands of children dying of hunger. Learning more and more and more about the disease, the ethnic violence meant I felt that I had to try and do something about the decreasing chimpanzee habitat, the decreasing numbers of chimpanzees, the problems that were taking their toll on these animal beings who have done so much for me and my students and others who have been working with them. It became necessary in my mind to also go and travel around and give talks about these things in Europe, in the United States and then increasingly in Asia and of course continuing in Africa. That is why I am 300 days a year on the road. It is not a pleasant life, especially unpleasant after 9/11. You have to go through all this security, take off your shoes, take off your jacket, let them poke you around, let them put you in a glass box and puff air at you. Now, they are x-raying our bones all the time now. It is really not fun.

But, travelling around and talking to people and then flying over Gombe in 1994 in a small plane, not just Gombe, but all the area around it and looking down and seeing, yes, Gombe is still much as it was in 1960 but beyond the tiny 30 square mile national park, there are no trees left. Not just some deforestation, almost total, with the only trees that you could really see in the very steep ravines where even desperate farmers couldn’t cultivate the slopes for food and women desperate for firewood couldn’t go to gather firewood. It was obvious that there were more people living there than the land could support. It was obvious that the land was losing its fertility from over farming. Terrible erosion. And, how could we even try to save the chimpanzees when the people were struggling to survive.

That is what led to our “TACARE”, ‘take care’, programme which I won’t go into now. It is on our website, <[www.janegoodall.org](http://www.janegoodall.org)> website. It is TACARE, trying to improve the lives of the people in an environmentally sustainable way, introducing to them new farming methods more suitable to this very degraded land and microcredit programmes, particularly for women who can start their own small, environmentally sustainable project with a tiny loan. If they pay it back, they can take out a larger loan, education for the children, our youth programme and better health facilities. And, the pay off has come. It took a long time. It was a long time before these villagers began to trust us. We started with 12, just immediately around Gombe, and then moved on so the total was 32, with the grant from the USAID. It is now required by law for every village to set aside a piece of its land for conservation. That is Tanzanian law. Using the GIS, GPS satellite imagery, high-resolution maps, we have a wonderful young man Lilian Pintea, he is from Moldavia, who has trained local Tanzanians. The team goes and sits with the villagers and they were so fascinated by their maps. One lady said, “That is where I put my baby to sleep under that tree.” That is how detailed they are. Because they now trust us and appreciate what we are doing to try and help, to try and help them to help themselves, that is the secret, they now have agreed, all these villages around Gombe, to put their land in such a way that it forms a

buffer. Five years after looking out over completely bare hills, I went out and looked over an area where some of the trees were 30 foot high. I tell you I was crying because that is the one hope for the Gombe chimps. And, now there is the beginning of a wide corridor of trees where other villages have put their land beside in such a way that it is making a corridor towards the chimpanzees who still remain in the south. So, all around Gombe we are trying to restore the forest and down in the south we are trying to protect the forest and the chimpanzees that are still left.

The final piece in this puzzle is that when Sir Nicholas Stern headed up a report, a five-year study of climate change, one of the conclusions was that the cheapest and most efficient way of slowing down global warming is to protect and restore forests, particularly tropical forests. So tied in with the carbon trade, where the carbon polluters can actually pay money for their pollution, that can be used to reduce the emissions of CO<sub>2</sub> which come from destroying tropical forests, that is going to make a very big difference. That gives us some hope of getting some reasonably large sums of money, if it can ever be worked out, to compete, perhaps not compete, but to give some alternative to an African government who at the present time is selling off its forest mostly to China and other Asian countries.

We from the West, we have done our bit of destruction in Africa and now Asia is taking over. If we are not careful, it is going to finish it off. They are not doing any worse than we did. We did it too.

This is why I am no longer sitting in the forests of Gombe. I wish I were. But, it seems to be, since the chimpanzees, since the Ph.D that I acquired from Cambridge with Robert's help, I could not have got it without him, has given me a voice that people will listen to. I am invited to things like the Copenhagen Climate Change Summit and the new one that is coming up in Durban. I have to put a voice out there even if it only might be heard. I just have to try and do what I can to do something, not just for the chimpanzees, but going back to the time of Dr. Doolittle, when I wanted to speak to the animals, this whole biodiversity, the interrelationship of life forms that we know so little about. But, we know enough to know that just one small species disappearing from an ecosystem can have a ripple affect and end up with ecological collapse. This we mustn't let happen.

So, perhaps in the question time, because I know that I can't talk anymore now, our youth programme, called 'Roots & Shoots', it can involve every single one of you young people here. It is now in 126 countries and it is growing. It involves people like you and projects that you choose to make the world a better place for people, for animals, for the environment we all share. Why do I spend so much time with youth? Because all of us could kill ourselves trying to save forests and chimpanzees but if new generations are not going to grow up to be wiser stewards than we have been, we might as well give up.

And we won't give up.

Thank you.

## **Questions and Answers**

**Q) Laura McKinley**

I was just wondering when you first saw David Greybeard use that twig to go termite fishing, did you realize the impact it would have on the definition of man?

**Jane Goodall**

No. When I first saw David Greybeard, quite honestly, I wasn't surprised, because my Bible at that time was a book called "The Mentality of Apes" by Wolfgang Kohler. He studied a group of chimps on Tenerife where I was yesterday going to see where he did these studies; anybody interested in the mentality of apes, read it! It is wonderful. It was very clear to me that chimpanzees were incredibly intelligent but somehow there was an assumption that that was because they were captive and that in the wild this couldn't possibly be because this was unique to us. So, I wasn't that surprised. I was excited because George Schaller, who studied the Mountain Gorilla, had visited with me just two weeks before and he said, "If you see tool using the whole study will have been worthwhile."

**Q) Stephanie Emra**

I was just wondering about the Rhesus monkeys. You said their behaviour changed after they were separated from their parents. Just wondering, after the two years, were they more independent because of the separation or were they more nervous in these situations.

**Robert Hinde**

The main test we did was to show them what we thought was a frightening stimulus which initially was me with a dustsheet over my shoulders. (Loud audience laughter) And they couldn't cope with that. They were disoriented, went into a corner and so on.

**Q) Stephanie Emra**

The Rhesus monkeys that hadn't been separated from their parents, they could cope with that?

**Robert Hinde**

The separation made it more difficult for them. Yes.

**Q) Andy Whiten**

It is my perception, correct me if I am wrong, the early years of chimpanzee research kind of portrayed them in quite a rosy way. We saw all these positive bonds, strong emotional bonds between mother and child, gentle grooming and so on. There was a caricature, a hippy kind of picture of chimpanzees perhaps. But, then, in later years, it was discovered to the contrary, chimpanzees would go out and lead the raiding parties and kill their neighbours. Richard portrayed that in a book "Demonic Males." There is various questions one could ask about that which would be interesting one of which might be, some of you alluded to watching, because these might tell us about our own ancestry. What is the answer there? But, I thought, another question which might be more appropriate for this afternoon, is what was it like discovering that? Just trying to remember, in Brazzaville Beach, the novel, which had lots of reflections of Jane and this whole story, there was a primatologist who I think discovered that early picture of the primates that they studied which is rather like that, and then changed, and there was a kind of tension there. I think they even didn't want to acknowledge it. So one can imagine the kind of challenge in science, when you discover something which very much radically changes your

early view. I just wondered if you would like to say what it was like. If that were true that the picture changed and what it was like discovering that and handling it at a scientific level.

**Jane Goodall**

I would have to say that I was shocked and disappointed because I had thought that chimps were very like us but rather nicer. And, discovering that they are capable, just like us, that they have a dark side and that they are capable of brutality and violence was disappointing. But, on the other hand, that made them even that much more fascinating because they are that much more like us. If you are interested in the evolution of human behaviour, then these characteristics surely we brought them with us along this long evolutionary pathway. You can't look around the world and not realize that in certain situations we can be very aggressive and very often in those situations like the ones that cause aggression in chimpanzees. But, it was horrible for me, personally. I know that Dian Fossey, when she discovered this aggression in Gorillas, she wouldn't talk about it for a long time. She didn't want anybody to know.

**Q) Will Wilson**

Your study of chimpanzees, and Dian Fossey with gorillas, is extremely famous and popular and maybe romanticized. Why do you think this isn't the case with studies into orangutans and baboons and bonobos and other primates?

**Jane Goodall**

I think it has. Don't you think so, Richard? Hasn't it been the same sort of aura around the bonobo studies and certainly the orangutans. I suppose, for me personally, I have written a lot of books and Dian Fossey wrote a book and there was movie, "Gorillas in the Mist." Those are the kinds of things. There have been hundreds of Geographic stories that have taken the information around the world, far more than has been written on bonobos. And baboons, well, baboons are baboons. (Audience laughter)

**Q) Leilia Dora**

You have all mentioned the importance of the link between chimpanzees and other primates and humans. For those of you who have worked with primates, and worked studying humans as well, how much has your study on one helped your study on the other?

**Richard Wrangham**

Well, I am now interested in the evolution of cooking (audience laughter) and I think that is because of my interest in chimpanzees. In the early 1970s, what we were doing for the first time was following chimpanzees all day from the time they got up in the morning until they rested in the evening. So, that is about 12 hours on average. I was studying feeding behaviour. Sometimes deliberately I would taste everything a chimpanzee ate and sometimes I would get up too late to make a sandwich so I would rely on eating what the chimpanzees ate and what that taught me eventually was that a bit like Tigger eating Eeyore's food, it is not for Tiggers. Quite a lot of the chimpanzees' food is perfectly palatable to humans but very little of it is the kind that you could fill your stomach with. Being a bright young thing, it took me about 30 years to realize the significance of that. (Audience laughter) I now think what is important about human socio-ecology is that we are biologically committed to eating cooked, processed food. It seems like such a blindingly obvious thing to me now and I am very surprised that people haven't pushed that idea previously. I think it is probably because they had not had the experience of

eating chimpanzee foods and trying to survive on it. Do I have a bottle of wine for that now?  
(Audience laughter)

**Jane Goodall**

I think I should add one thing, certainly having watched female chimpanzees looking after their babies for so long, it certainly gave me a whole different feeling when I was raising my own baby. I got lots of ideas from the chimps which I then put into practice.

Q) Unidentified male undergraduate

This is a question of a similar theme for Professor Hinde. You obviously started out in ethology and you have worked with various different animals and with humans. I was just wondering what would you say the most challenging aspects of working with different species is.

**Robert Hinde**

In my life, I studied different species for different purposes. One expects a different orientation in each case. I have been lucky in that I had a job that would let me do whatever I wanted to do. And, as I have told you, I made a mistake in the techniques I used for monkeys and the techniques I used for children. I'm not sure if that is answering your question.

Q) Isla Davidson

I was just wondering, the conservation projects that you have set up, have they worked mainly on the small scale? Would it be possible to scale them up?

**Jane Goodall**

I'm glad you asked that question. Why do you think I was talking to the President of the World Bank? (Audience laughter) We are also talking to the Bill Gates Foundation. It is all very exciting. It is happening right now. So, ask me this question in a couple of months but the TACARE model is such that it is adaptable to any situation. My dream is to see it replicated around other wilderness areas where people are living in poverty. And, knowing that the President was fascinated by tigers, it is the perfect model for India where you have immense property around the last vanishing tiger habitats. That is why he was interested. And, we might indeed be able to scale it up. I really hope so. We can't conserve anything unless we have the support of the people living around.

Q) Unidentified female undergraduate

In the past, you mentioned that we believed that tools were the thing that differentiated humans from chimps and, at the minute, language is still something that is believed to be a uniquely human ability. I was wondering if anybody thought that in the future we will be able to find that chimps or other primates exhibit some kind of property related to language so productivity, or the ability to use syntax, or some kind of language ability, in the future?

**Jane Goodall**

They have.

**William McGrew**

Let me say a word if I may. There is a person in the audience, Klaus Zuberbühler, who knows much more about this than I do, but I think more progress is being made than you might imagine. But, we have to be very careful about the terms and the concepts. Are we talking about use of symbols? Are we talking about semantic construction? Are we talking about production or comprehension? All of those are different ways of asking questions about language abilities. It seems to me, and I perhaps should yield the floor to Klaus, but it seems to me that we are finding that, not just with apes but also with monkeys, that there is much more communicative ability than we imagined before. Whether we call it language depends very much on how we define language.

### **Jane Goodall**

Wouldn't you say that Bill, one of the things that make our type of communication unique is that we can teach all of you something about an incident in a place where you have never been. We can talk about it with these words. And, I think the fascinating thing to me is that chimpanzees and other primates, certainly gorillas and orangutans, can learn sign language. They can learn symbols that represent words. They can use them. They can use them when they communicate with each other as well as with their teacher. But, as far as we know, out in the wild they have a wonderful, rich communication system but we still haven't answered the question, "How much information can a chimpanzee convey to another that is out of sight?" We can discuss, we can sit down and bring together different skills and different people and discuss a problem and come up with some unique answers. We can talk about the past and try and learn from it. We can make a plan. We could say, "We will reconvene next year and we invite all of you to come to a meeting like this." We can do those things because we have this kind of language. It is the explosive development of the human intellect which somehow I feel must be tied up with the development of this kind of ability to discuss and rely on culture rather than just be moving into it, like the chimps. So, if we are characterized by this extraordinarily, highly developed intellect that sent us to the moon and has created some incredible technologies, look at our libraries, even though they are now on the internet, there are still beautiful libraries of old books and how then is this most intellectual being that has ever walked the planet destroying its only home? It is not making sense. I'm sure you all know enough about the problems that we are facing right now. Nature will not be resilient forever. There is going to be a point of no return. We cannot continue taking and taking and taking all the non-renewable, natural resources. We cannot go on populating and over-populating and over-populating all the different parts of the planet and expect that our great, great, great grandchildren will have a life that is anything like ours. You know, when I look at my grandchildren, and think how we have harmed the planets since I was their age, I just feel this tremendous desperation. That is what led to "Roots & Shoots"; so many young people told me that they had little hope for the future because we have compromised your future. We have and there is nothing you can do about it. "Roots & Shoots" is all about "It is not too late if we realize that each one of us makes a difference every single day." What you do may seem tiny if it is moving in the right direction but multiply that by a million, a million correct choices, two million correct choices, a billion correct choices and you start to see the kind of change that we have to see if we care about the future. And, think like the indigenous people who made a decision based on "How will this affect our people generations ahead?" Not how will it affect me now or the next shareholders meeting in three months.

### **Robert Hinde**

There is a very good article on some of what Jane has just said by Richard Wrangham, what's it in? (Audience laughter) In the American weekly journal or was it in *The Wall Street Journal*. In its current number, I should think.

**Richard Wrangham** Maybe. It is not published yet.

Audience laughter

**Robert Hinde**

Could I say one more thing? I warmly support what Jane has just said about people not doing anything because they can only do a little. It is absolutely crucial that you don't think that you are going to change the world. You are going to contribute and push it a little bit in the right direction.

**Q) Alex Page**

Question directed to Jane. If you could go back to the start of your time at Gombe, knowing what you know now, are there things that you would have done differently in your approach to studying chimpanzees?

**Jane Goodall**

There might have been things that would have speeded up the process but you know when I first got there, nobody knew anything. You are saying if I knew everything. If I knew everything that I know now, I wouldn't have gone to study it in the first place. (Audience laughter) I mean I suppose the banana feeding was a mistake and yet it enabled us. I think if we hadn't started the banana feeding, I don't know if we would have gotten funds to carry on back then because it was taking such a long time to habituate all the chimpanzees. And, because of the bananas we were able to speed that process up. Now, it is a wonderful field experiment where you could see what happened. You could see when you stopped and how things went back to how they were before.

**Q) Duncan Stibbard Hawkes**

You mentioned SIV and what are the consequences of that for chimpanzees, closely related to humans, pathogen transfer. Yet, everywhere I see pictures of you embracing chimpanzees. I wondered if you thought this gave people the wrong impression?

**Jane Goodall**

You see pictures of me embracing chimps. The chimps you see me embracing are in our sanctuaries. Because of the bush meat trade, there are many, many one year, one and a half year old chimps who cannot be sold for meat because they don't have enough meat on their little bones. So, we have the largest chimpanzee sanctuary for orphaned chimps in Africa is in Congo Brazzaville named Tchimpounga, and when you take the orphans in, you have to provide them with the same kind of contact, love if you like, that they would receive from their mothers. The Gombe chimps that you see me touching are in the olden days.

**Q) Yasemin Yazar**

You made the point before, a very valid point, that studying animals in the natural habitat is much better than having them in capture but what do you think about the work of Michael

Tomasello, for example, who has bigger cages than five by five, I guess, but still makes points about social interaction in animal behaviour?

**Jane Goodall**

I don't know enough about that study. Do you know about it?

**William McGrew**

I can say a word or two about that. I think it is the constant trade off between the elegance and the clarity of controlled conditions which you can have in experimental conditions in captivity and which Michael Tomasello and his colleagues make much of, against the issue of validity which is that the result may be clean and clear but they may not have that much application to real organisms in the real world. I'm afraid that it is going to be one of those things that we can argue forever in terms of the trade offs and the priorities. There are ways to get around that I suppose in the sense that one can do operational studies of groups of chimpanzees with valid socio-ecologically age and sex composition make up so that at least you have a social milieu that is to some extent natural or naturalistic. And, to some extent, you can do experiments in the wild where you can control a few variables, but never all, and it is possible that somewhere within that spectrum that if you ask the right question in the right context you will get a somewhat valid answer. I think that one will run and run, that particular question.

**Jane Goodall**

But, also, you have to take into account the fact that it is never right to put something intelligent into a cage whatever it is that you want to find out. We shouldn't be doing that.

**McGrew**

Ethical constraints, absolutely.

**Richard Wrangham**

If we are talking about the Tomasello studies broadly, then it is a win/win. This body of research happens extensively in sanctuaries which house chimps and other apes that have been rescued from the bush meat trade or are there for some other tragic reason that has taken them out of the forest. When these experiments are done, these experimenters have all the right attitudes. They do not force the apes into places against their will. They invite chimps to go into places. From the chimp's point of view, these are games. The chimps mostly spend their days out in the forest, in the case of Ngamba Island in Uganda, for instance, where a lot of the work is being done, they can choose to come back into the caged area at night if they want to or they can choose to stay out. So, there is a lot options. It is a win from the chimps' point of view because they clearly enjoy these games. They like to come and be challenged by the tests. It is a win for researchers because they get data and it is a win for the sanctuaries because they have somebody both providing an environment, enriching it and contributing economically. So, I want to make a strong plug for the merits of those sorts of experiments.

**Q) Jacke Phillips**

I'm not asking this as a criticism or anything, because I truly don't know. After 50 years at Gombe, how sure is anything that the studies that you are doing now have any relevance to chimpanzees in the wild because they have been observing you for the last 50 years as well as you observing them.

**Jane Goodall**

I think one of the fascinating things about this is that if you are interacting with a chimpanzee in captivity and you sort of come and you offer a clap if they do something well, they will imitate you. At Gombe they won't. It is very fascinating. In Gombe and probably other research places as well what is most interesting for a chimpanzee is another chimpanzee. And they will watch intently and they learn, observe. They can learn by observation and true imitation just like our own children. But they are not interested in us. We might even take umbrage at that but they don't actually care what we do. And, they don't imitate what we do. I think one of the things that a lot of people have commented on at Gombe is that the chimps don't pay any attention to you at all. I remember Robert saying that when he first came to Gombe, he said, "Well, they don't pay any attention at all." Well, the second time he came to Gombe anyway. The first time you had this white hair and that is why he was wiping his foot. (Audience laughter) Also, I should just add that every population of chimps that has been studied acts different. They have all got their own cultures and customs and way of doing things. Well we don't know how much it is altered because we don't know what it was like before we were there.

**Q) Unidentified male student**

This is a question for Jane. I was wondering, if looking at your work with the chimpanzees in theory, couldn't you overlap that with what we know about hunter-gatherer societies in the past and try and fill in the gaps on either side with what we don't know about the chimpanzees and what we don't know about hunter-gatherer societies? Would that be a fair thing to do? Or, would it be a bit impractical and irrelevant?

**Jane Goodall**

I think actually that is a question for Richard after he has been with the pygmies. I haven't studied hunter-gatherers.

**Richard Wrangham**

Clearly, the reason that a lot of us studied chimpanzees is to follow in the Louis Leakey mold, to see what is in common between chimpanzees and humans and to see what is different. And hunter-gatherers offer a particular example of that. It is not that easy. You have got to be very careful. Take the practice of sharing meat among men. In every hunter-gatherer society that we know of, there is a great deal of sharing. In chimpanzees, there is a fair amount of sharing. The more that people look at the pattern of sharing among chimps compared to the pattern of sharing among hunters and gatherers, the more differences you see. What seemed at first to be superficially similar is masking the fact that it is much more voluntary and much more egalitarian in hunters and gatherers than it is in chimps. But, are there commonalities that are useful for thinking about the hunter-gatherer systems operate, well probably. I think it is hard to find people who aren't going to be interested in those similarities but you have got to be very careful in the way you do your analysis.

**William McGrew**

Folks we are 10 minutes over. We will take a couple more questions and then we have to wind up and move on to something else.

**Q) Unidentified male student**

This is a question for Jane primarily. Was habituation your intention or simply an unexpected consequence of your persistent presence?

**Jane Goodall**

The habituation was absolutely necessary for me because if the chimpanzees were running away every time they saw me and you can't hide because you don't know where they are going to be anyway. And, they are pretty clever at seeing you. And, if the chimps don't see you, the baboons will because they notice even quicker and they bark at you. And, then the chimps say, "What is he barking at? Oh, it is that horrible white ape." (Audience laughter) So the habituation was totally necessary.

Q) Same student

Have you experienced that habituation having a negative situation?

**Jane Goodall**

Absolutely. Sometimes the chimps will charge you, knock you over, drag you, push you down the slope. It is extremely negative.

Q) Same voice

For you or for the chimps?

Q) Young woman with a French accent

My question, if you were 23 today and with the same passion for the chimpanzees which way would you choose to follow to study the chimpanzee or try to change something in our society?

**Jane Goodall**

If I were 23 today would I decide to study chimpanzees or change something in our society? I don't think I can answer that. I can't imagine being 23 in the society today. It is too difficult. I don't know. Can you answer that?

**Richard Wrangham**

What should a 23 year old do today?

**Jane Goodall**

Not me but somebody else. Well, the sad thing is when I was 23 all of these concerns about the environment didn't really exist. Yes, of course, we have always been destroying the environment but we hadn't reached the intensity of its destruction of today nor did we have the technology to enable us to destroy as fast as we are able to destroy today and we had still got forests. Today, what I find very sad is that most students who are going in for some kind of field research, tend almost to have to do something in their study that helps towards the conservation of the area or the species where they are. Very often that takes the form of employing local people and training them and sharing information with them and trying to instill the conservation values in the local people, which is a good thing to do. There is a lot more need today to do things to put the world to right than there was before. At least that is the way I see it.

**Richard Wrangham**

Which is clearly right. But, if it means that what you say to yourself is "Well, damn it, I had better forego the opportunity to go off and do exciting research and should just really focus on doing good", let me put the other side of it as well. We need those people, yes, but don't forget that there is a tremendous number of exciting opportunities still to make very fundamental

discoveries. Here is one very simple example; new species of primates are being discovered still every decade and new exciting discoveries are being made about the social behaviour of animals, like the snub-nosed monkeys in China where suddenly we find out that they live in groups of hundreds. There are new, exciting opportunities in terms of the techniques that Jane mentioned, linking the physiological, genetic, behavioural studies. So, personally, if you have got the spirit for it, my recommendation is, go out and contribute to describing the amazing natural history of the world because you will do two things. You will both contribute in that way and you will give yourself a platform to be able to therefore be more effective in investing in the future of the world. Just as a specific example of that. Jane has been describing the TACARE project around Gombe. Every single, long-term study of chimpanzees and gorillas has had similar kinds of impacts. Not all of them have had the size and effectiveness of TACARE but all of them, as a consequence of establishing that long-term presence and as a consequence of having committed people who are interested in the behaviour, interested in the species, interested in individuals, they all developed conservation programmes that have had great impact around both places. That means if you go out and develop your own long-term study somewhere, you will almost certainly end up doing a lot of good in that area. So, again, it is a win/win. You don't have to commit yourself to just investing in the world directly. You can go out and do great research and contribute that way as well. (Audience applause)

### **Jane Goodall**

Absolutely. I mean, I said, you know, it just means that most of the young people who do go out, there is masses to learn. That is what I am saying all the time. But, you do need to think about the conservation of the species that you are studying more than you used to have to before. We are saying the same thing. (Soft audience laughter)

### **William McGrew**

With that tone of consensus, it is perhaps time to call this to a close. Thank you for staying over. We have run an extra quarter hour. I believe Jane will be signing or rather thumb-printing, finger printing copies of her books. I will bring things to a close. Thank you very much for your attention over these two hours.

Loud applause

The End