The Leakey Foundation Oral History of Human Origins Research: Robert Seyfarth

Interview conducted by
Bernard Wood
In 2026

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Bernard Wood (00:00:01):

Robert Seyfarth, many thanks for agreeing to be part of this project. Could we please begin by you giving us your full name and either where you are still employed or what your last employment was?

Robert Seyfarth (00:00:22):

My name is Robert Seyfarth and I am an emeritus professor of psychology at the University of Pennsylvania, where I was a member of the psychology department, and the psychology and biology graduate groups for roughly 38 to 40 years.

Bernard Wood (00:00:46):

That's a good long stint. Robert, could we start by me apologizing, because I think I have mispronounced your name for years! Could you tell us about your family and your family name?

Robert Seyfarth (00:01:03):

My family name is originally German and the Seyfarth ancestors came to the United States from Germany during the 1848 revolutions in Europe, settling on the south side of Chicago, where they were brewers and bakers and shopkeepers. My grandfather, two generations later, became a prominent residential architect in the Chicago area. Very much a traditionalist in contrast to Frank Lloyd Wright, one of his local rivals. The family grew through the founding of a law firm by my father's cousin and my grandfather's prominence in the architectural world. That's more or less where I came from.

Bernard Wood (00:02:01):

I think it probably answers my next question that I suspect you weren't the first member of your family to go to college?

Robert Seyfarth (00:02:09):

Definitely not!

Bernard Wood (00:02:10):

Do you have brothers and sisters?

Robert Seyfarth (00:02:14):

I have one sister who is seven years younger than me. We grew up together in a very comfortable life in the suburbs of Chicago.

Bernard Wood (00:02:24):

Where did you go to high school?

Robert Seyfarth (00:02:27):

I went to boarding school at Phillips Exeter Academy in Exeter, New Hampshire. That was really a pivotal point for me, because they taught me how to write and they taught me how to think. Iit had all the trauma you have at a boys school for teenagers, but I managed to survive.

Bernard Wood (00:02:56):

Was your interest in natural history evident then or was it nurtured by that experience?

Robert Seyfarth (00:03:06):

It was nurtured by my father who loved to be out of doors, spending lots of time gardening and fishing. Every school vacation, he would take us all usually to The Bahamas. We went from one island to another, fishing and being outside. That was just great because I realized if you really like the outdoors, it doesn't matter whether you caught any fish or not!

Bernard Wood (00:03:37):

You went to Harvard, which I guess if you went to Phillips Exeter Academy wasn't unusual?

Robert Seyfarth (00:03:51):

A large number of us migrated there. I thought about going to Yale, but Harvard had the advantage of women in its classes. And after four years as a boy's boarding school, I was a little bit tired of a testosterone-dominated environment!

Bernard Wood (00:04:11):

That’s a very interesting observation! Who were the people who influenced you at Harvard? Was it more your fellow students or the faculty?

Robert Seyfarth (00:05:16):

Well, I arrived at Harvard,as a complete intellectual *tabula rasa*. I didn't know what I wanted to do, but there was a course there called *Man's Place in Nature*. That sort of dates me. It was a third genetics taught by Eugene Giles, a third hominid evolution taught by William Howells, and a third primate behavior taught by Irven Devore. Lots of my classmates took this course because it satisfied the natural sciences requirement, yet it didn't have a lab. I took the course and became completely hooked and majored in biological anthropology. From that point on I was directed toward that particular field. When I was a sophomore, when you get assigned a tutor, I was assigned William Howells. And that was an enormous piece of luck because he was, in retrospect, just a classy guy. And he had a tiny, modest office despite his eminence in the field. The office was so small that if the phone rang, the walls sort of shook. But if he was having a session with me, he never answered it. He always paid attention to me and he was great. But my interest quickly shifted towards the adventure of studying non-human primates in the wild. And of course, Irve Devore was the

major figure at that point. I did interact with him, but many other people wanted to interact with him. The main people I interacted with, and who influenced me, were two of Irv's graduate students, Peter Rodman and especially Robert Trivers.

Bernard Wood (00:07:14):

Well, in many ways Harvard was j the world headquarters of these things at that time. When did you make a decision to go on to graduate school?

Robert Seyfarth (00:07:40):

As I began my senior year, I still really didn't know what I wanted to do with the rest of my life. None of my family had been in academic research and I was just sort of puzzled. How do you do that sort of thing? Several things happened at the same time. The first, Bernard Campbell was a visiting professor from Cambridge, and he encouraged me to apply to Cambridge for graduate school and to work with Robert Hinde. That sounded very appealing. The second thing is that I went out to dinner with a very good friend of mine, whose uncle was visiting, and the uncle was an archeologist, an American archeologist. And he said to me, "Look, if you think you want to go study primates in the wild, do it. If it doesn't work out, you can always come back and find a job somewhere. But if you don't give it a try now, then you'll spend the rest of your life wondering what would it have been like if I had done that?At the time, if you were an American, you could go to Cambridge and it cost very little money. Also, by that time, I had met Dorothy Cheney, who was an undergraduate at Wellesley, and she was planning to do her junior year abroad at the London School of Economics, so she was going to London. That was another incentive to go to the UK for at least a year. So off I went, going through the arcane process of applying for admission into the graduate program at Cambridge and admission into a college and all this sort of thing. I somehow managed to find my way through it all.

Bernard Wood (00:09:43):

Which college did you go to?

Robert Seyfarth (00:09:45):

A small graduate college called St Edmunds House, that was originally founded for Catholics. I'm not religious at all, but it was founded as an alternative for Catholics. At the time it was trying to make itself into a graduate college, which it now is, and they had space. So, I took one of their slots.

Bernard Wood (00:10:09):

What did you know about Robert Hinde before you turned up at Madingley?

Robert Seyfarth (00:10:20):

I knew quite a lot about the mother-infant separation work, and I knew a bit less about the hormone and behavior work that he had done on birds, but I didn't know that much about him personally. When I arrived at Cambridge, Bernard Campbell who had now returned from Harvard, was extremely friendly and had me over for dinner. I basically had to go and introduce myself to Robert Hinde and say, "Here I am. What do I do now?"

Bernard Wood (00:11:00):

What was your first impression?

Robert Seyfarth (00:11:05):

Imperious and somewhat impatient, but very supportive. He suggested "You've got to get involved in research as much as possible. The other person who was extremely influential at that time was Tim Clutton-Brock, one of Hinde's senior graduate students, and he'd just come back from the field. So we talked a lot about what it's like to do field work, what the major issues in the field were, what was going on at the time, and how to interact with Robert.

Bernard Wood (00:11:56):

A sort of Field guide to Robert Hinde?

Robert Seyfarth (00:12:00):

Yes. Tim was very helpful when I was looking around for some sort of commitment to do a field research project. At the time, Robert was working closely with Jane Goodall and said, "Well, would you consider going to Gombe?" I said, "Yes" and that was the plan. But I met John Crook at a conference at the Zoological Society of London, and he said, "Why don't you think about coming to work with me on geladas in Ethiopia? Tim said, "Be sure to mention that John Crook would like to offer you a position, mention that to Robert, because he will immediately start to say, 'Well, perhaps you should come and work with me. That was very good advice, so I signed on to work with Robert. He was great at that point but there wasn't much to say, because I didn't have any data and Robert was definitely involved with data. No 'wifty' theoretical stuff! Anyway, that was fine.

Bernard Wood (00:13:20):

When did you go to Cambridge?

Robert Seyfarth (00:13:34):

1970.

Bernard Wood (00:13:35):

When did you go to Gombe?

Robert Seyfarth (00:13:39):

Well, complications arose, because by the spring of 1971, when I would've gone to Gombe, Jane was having a lot of political difficulty in Tanzania, especially when she was trying to get permits for the students who wanted to go out to Gombe. It was a very difficult time. She said "Well, we don't have any permission at the moment." So what to do? Well, there was no permission, but I wanted to go to Gombe and yet I couldn't sit in Cambridge doing nothing. And I knew that also I could get a job in the admissions office at Harvard, where I had worked as a clerk when I was an undergraduate. So I went back to Cambridge, Massachusetts, worked at Harvard and waited for permission to be able to go to Gombe. I should also mention that Dorothy had returned to Wellesley for her senior year and we'd decided to get married, so various things were happening. We never did get permission to have students go in. Robert became very impatient and said, "You've got to get into the field. You've got to get to work on this." He had recently examined Graham Saayman, a PhD student in South Africa, who had said, "Well, there are a couple of places that Robert could go in South Africa, where he would be able to work on baboons." Sso, that's where I went, because I could!

Bernard Wood (00:15:27):

Where did you go? How long were you there?

Robert Seyfarth (00:15:33):

So, in 1972 we went to the Mountain Zebra National Park in the Karoo part of South Africa, where the situation wasn't really all that great either. It was a new park that had been created by an amalgamation of a bunch of former privately-owned farms. On those farms were baboons and the baboons had been shot at, so they were not habituated. Thereafter a number of interesting accidents occurred. We could follow these baboons, but only at a distance, Dorothy and I were working together for the first time. We didn't know how to get started. So, we started writing people, prominent people in the field to say, "What do we do?" We wrote to Thelma Rowell , who said, "You're not going to be anywhere scientifically unless you know the individuals." So we thought, "Well, we better capture and mark these individuals." South African science wasn't all that great at the time, but the one thing South African farmers know how to do was how to catch baboons and mark them. So, as Thelma said later on you wrote back to me and said, "Okay, so we caught all the baboons and we've marked them and now we know the individuals, even though they aren't habituated." She really couldn't believe we had done that. The other crucial thing is that we knew we had to sample their social behavior, but we didn't quite know how. We wrote to Jeanne Altmann and she sent us the final draft of her manuscript that would eventually appear in *Behavior*, and that told us how to sample behavior. So, two things happened that helped us, so we started sampling behavior. Whereas previously we had been going to work at Gombe on ecology and feeding. Dorothy and I decided that ecology and feeding was really kind of

boring and that the social behavior was what was really interesting to us. So, we began to immerse ourselves in what we knew about he individual baboons, in a sort of Jane Austen soap opera sense. What was life like in a baboon group? So, that's when we really started taking on data.

Bernard Wood (00:18:15):

Robert, can you explain to people listening to this what you mean by sampling? Do you mean you started a stopwatch and wrote down everything a baboon did for an hour?

Robert Seyfarth (00:18:28):

What Jeanne Altman did say was "Look, you walk out and you're looking at a bunch of baboons, you can't record everything." As much as you try, even if you sit there speaking into a tape recorder, you can't record *everything* that was going on. So, you've got to find a way that systematically samples the behavior that you see. She adopted methods economists had been using in factories to decide on who does what to whom. One of the things she said was, "Here's a technique, focal animal sampling, pick an individual, follow that individual carefully, record everything it does with every individual it interacts with and do that for a predetermined time." That's one record, one focal animal sample. Then move on to another individual and do it again, and keep on doing it as you march through the group, so that at the end of a week or a month, you've got an equal amount of focal samples on every individual in the group. Then you can use those to piece together a picture of how the individuals interact with each other.

Bernard Wood (00:19:47):

So, for people who are used to the American graduate system, let's just recap. You were a graduate student in Cambridge. There was no coursework. You left Cambridge to go back to Harvard, because you were interested in an undergraduate from Wellesley. You wanted to go to Gombe, but you couldn't, because you couldn't get a permit. So, you and Dorothy went to South Africa, where unless I'm misrepresenting you, you guys really didn't know a great deal about what you wanted to do, but you had enough money to mail letters to people and ask them what to do, and you worked out what to do. It's just extraordinary to me that in these days when everything is very structured, just how unstructured it was.

Robert Seyfarth (00:20:46):

Oh, absolutely. And I mean, you *could* say that the minute we went off to South Africa, Robert Hinde provided no guidance whatsoever, because he hadn't been in the field and he didn't know what we were looking at.The people we wrote to provided really good guidance, but essntially we were left to create our own PhDs.

Bernard Wood (00:21:13):

Dorothy died in 2018 and you two were extremely close for a long time, so please accept my belated condolences. But she was not a graduate student, but she somehow managed to become a graduate student of Robert Hinde. How did that work?

Robert Seyfarth (00:21:44):

This gets to another wonderful aspect of Robert Hinde. We were in the field for maybe 15 months, and we got married just before we left. Also, just before we left to go into the field, Dorothy had taken the entrance exams for law school thinking that she would become a lawyer, which was a kind of default occupation. Several weeks into watching Baboons, once we learned the individuals, she decided this was much more interesting than being a lawyer. So, as we got close to the time when we would return to Cambridge, we began working on a summary for Robert of what we had seen, what we thought that showed that was interesting, that people had not seen before, and what kind of data we had to back up these assertions. We wrote all that to him in a long letter. In addition to *that* letter, Dorothy wrote to Robert and said, "I don't want to be a lawyer. I think that I would like to get a doctorate in animal behavior and do the work that comes from our baboon study. Would you be willing to take me on?"

Robert Hinde's second wife was an American, Joan Stevenson Hinde, and she had spent her undergraduate years at Mount Holyoke and had gone on to do a PhD in psychology at Brown, another well-worn path for scientists. So, she knew that Wellesley was a top flight institution. And so, Robert apparently said to her, "Well, what should I do with this person? Is this another Jane Goodall or Diane Fossey with no training whatsoever?" He asked Dorothy to send him her transcript and Joan purportedly said to Robert, "Anyone with a transcript like that from Wellesley, take her on." Robert said, "Fine, I will do this, but I would like you to write an essay a month for me for the next year." He took Dorothy on for a private tutorial in his rooms in St. John's College, and he would assign essays and reading, and she would hand the essays back. Dorothy loved these sessions. And by all accounts, Robert said they were very interesting and stimulating. So he took her on for a PhD.

Bernard Wood (00:24:27):

I read about that in the very touching piece from the University of Pennsylvania about Dorothy. That is another extraordinary aspect of the Cambridge/Hinde access route. Although is in many ways a very formal institution, it seems to attract rather informal people who don't want to necessarily play by the rules. If they see a really good student, then they will find a way to make sure that student gets into the program. What was the title of your thesis, and what was the title of Dorothy's thesis?

Robert Seyfarth (00:25:22):

Mine was *Social Relationships among Adult Male and Female Baboon*s, and Dorothy's was *Social Development Among Juvenile Baboons*. Robert said, "Okay, how are we going to separate you in the minds of the administration?" So, he wrote a letter saying that each of

us used the other as a research assistant to help collect data. so we pooled our data, and he and they were fine with that arrangement. And as you hinted at, no doubt only someone with the stature and reputation of Robert Hinde could have pulled that off!

Bernard Wood (00:26:09):

Likely he would if needed remind people that he was a Royal Society Research Professor who are about as rare as hen's teeth! You have to be *really* smart to be a Royal Society Research Professor. So, you defended your thesis in 1976?

Robert Seyfarth (00:26:32):

Yes.

Bernard Wood (00:26:33):

And that was the same year that Dorothy did too?

Robert Seyfarth (00:26:36):

Yes.

Bernard Wood (00:26:37):

Who was your examiner apart from Robert?

Robert Seyfarth (00:26:41):

My examiners were Patrick Bateson and John Crook; Dorothy's examiners were Nick Blurton-Jones and Jathe social anthropologist whose wife was a social anthropologist. I'll think of the name in a bit [Jack Goody].

Bernard Wood (00:27:04):

One of the things that interests me so much about you is not just your research, but the close intellectual partnership you and Dorothy developed. How the two of you managed that is really of great interest to me. My understanding was that her undergraduate degree was in political science?

Robert Seyfarth (00:27:33):

Correct.

Bernard Wood (00:27:35):

Do you think that had any influence on how she went about her primatology?

Robert Seyfarth (00:27:46):

It certainly meant she was much more interested in the intricacies of social interaction than in feeding ecology. So, that biased her toward the social side, and it gave her an intellectual background in theories of individuals and society that made a difference. Otherwise, we just talked about this stuff all the time, and the ability to try out ideas with each other was enormously helpful.

Bernard Wood (00:28:31):

With such a close domestic and professional association, there are clearly many ways it could go wrong. Why do you think it didn't?

Robert Seyfarth (00:28:55):

Well, we really liked each other. What can I say? We enjoyed each other's company, and it was very difficult to find a day in which Dorothy didn't hit me with some incredible insight or make me laugh, and vice versa. It just worked.

Bernard Wood (00:29:26):

So, we're now in Cambridge, UK in 1976. You've finished the bottle of champagne to celebrate the fact that you both have PhDs. How did you decide what to do next, and what did you do?

Robert Seyfarth (00:29:49):

We went to Robert Hinde as the time of our PhDs became closer and we said, "What do we do now?"

He said, "I write my friends" explaining that "If you write to people, they're not going to know who you are and they probably won't answer your letters." So he wrote to his friends. I should say that along the way, as we developed our theses and our arguments, we used to argue with Robert Hinde and discuss things a lot. He was a really severe critic, who questioned the logic of our arguments. He also questioned the data, but he did it in a way that was enormously supportive.

Bernard Wood (00:30:41):

It was developmental. I'm sure Robert would never have used that term, but in a sense, it was what you needed.

Robert Seyfarth (00:30:50):

Oh, absolutely. He was enormously ‘on our side, yet he was a strong critic. He said at one point, when we were thinking about making a presentation of our work, "My role is to send you into the world without fear." And the general talk in the UK at the time was if you were working in animal behavior, you either had Robert Hinde as an advisor or as an examiner. It was generally better to have him as an advisor! One of the people he wrote to was Peter Marler who was fresh off having his graduate student, Tom Struhsaker, who was interested

in feeding ecology and had worked on vervet monkeys in Amboseli. Tom came back and reported that in addition to his work on ecology, the vervet monkeys were giving acoustically different alarm calls to different predators. For Peter Marler, this looked like an opportunity for doing some experiments like those he had pioneered in birds. So, he was looking for a postdoc to do this. We didn't know very much at all about vocal communication and the issues surrounding it, but we wanted to get started on a long-term study of an interesting primate, so we could continue the kind of social Jane Austen-type work we had been doing on baboons. So, because Peter Marler had the resources at Rockefeller University, he was able to offer us postdocs. That was another major turning point in our intellectual lives.

Bernard Wood (00:33:00):

This was the beginning of your research at Amboseli?

Robert Seyfarth (00:33:13):

Yes.

Bernard Wood (00:33:15):

How was that research funded? Your salaries came from Peter Marler. Did his grants fund the research?

Robert Seyfarth (00:33:27):

I applied for an NIH postdoc, but I didn't get it the first time around. But because Peter had an endowed position at Rockefeller, he said “that's okay, come anyway”. Dorothy applied for an NSF postdoc, and then I got an NIH postdoc. So we both had postdoc grants that had some money for supplies and things, with Peter's grants paying the other expenses. We got a grant from the Harry Frank Guggenheim Foundation that was a good slug of money that also helped cover the costs. But intellectually, we were still as a little bit uninformed about why this work might be important. Peter gave us a copy of his Senior Investigator's NSF grant, and while it didn't go into details, it talked about concepts and ideas. We read that and discussed it three or four times. Finally, it began to dawn on us why this was significant. Peter was interested in a variety of things that Robert wasn't interested in. Peter was an amazingly creative intellect who was at that time bringing together a lot of work on speech, language, bird song, and he wanted to include non-human primates.

Bernard Wood (00:35:16):

Could you remind us of his background?

Robert Seyfarth (00:35:20):

Peter received his first PhD from University College London in botanical taxonomy. He loved plants, but he found the whole thing much too mathematical, and he also really loved

birds. So, he switched to work at Cambridge with Thorpe, arriving at Madingley to work with Thorpe around the same time Robert came from Oxford with his PhD. Robert had some sort of junior faculty position.

Bernard Wood (00:36:07):

We should just remind people what Madingley is.

Robert Seyfarth (00:36:16):

It's a small village outside of Cambridge where W.H. Thorpe, an eminent scientist studying birds, set up a lab,because he could get a bit of property in the village where he could have birds in aviaries, as well as studying them in the wild.

Bernard Wood (00:36:35):

I forget what it was called.

Robert Seyfarth (00:36:39):

Sub-Department of Animal Behavior within the Department of Zoology.

Bernard Wood (00:36:45):

I think Robert Hinde was largely a student of David Lack, but he much influenced by Niko Tinbergen. I mean, this was the world headquarters of animal behavior, wasn't it?

Robert Seyfarth (00:37:06):

It really was. I also remember that Robert wrote the textbook *Animal Behavior: A Synthesis of Ethology and Comparative Psychology* in 1970. He was reacting against the overwhelming bias in American comparative psychology of studying the development of behavior, but only with animals in artificial captive settings. He reacted against that, because he felt that there wasn't enough contact with the real world in which the animals lived and the complexities thereof. At the same time, E.O. Wilson was publishing his book *Sociobiology* arguing that what you really need to do is look at the reproductive consequences of behavior under natural conditions. Robert wasn't so much interested in that, but he was interested in the intricacies of development and the way in which adaptation to the environment grew out of biological predispositions combined with learning. A number of intellectual strands were coming together at the same time.

Bernard Wood (00:38:38):

We've been discussing the people along with you and Dorothy who made it, so to speak. Were there graduate students of Robert who were less successful? I'm not asking for names, but was it just a story of success, or were there people who fell by the wayside?

Robert Seyfarth (00:39:05):

If I were to list the graduate students that were with us during our years in Cambridge, you'd say they were all pretty successful.

Bernard Wood (00:39:14):

They were all like Anne Pusey?

Robert Seyfarth (00:39:20):

Yeah, exactly.

Bernard Wood (00:39:24):

And Phyllis Lee?

Robert Seyfarth (00:39:27):

There were a whole lot of us. Tim Clutton-Brock, Richard Wrangham, *et cetera*, *et cetera*. Remember this was a new field. A lot of us were doing work that hadn't been done before. Today, you've got to be much more narrowly focused in order to create a scientific niche for yourself that hasn't already been exploited by your predecessors.

Bernard Wood (00:40:03):

What were the highlights of your time in Amboseli?

Robert Seyfarth (00:40:17):

Well, first of all we had a lot of fun. We shared a camp with Cynthia Moss who was doing long-term work on elephants as well as Joyce Poole. Nairobi was a mecca for people doing field work, because they could come to Nairobi. We always stayed with Andrew Hill, a friend of yours, and you can't imagine being with Andrew and not having fun! That was good. We were really lucky with the vervet alarm call work. We went out there wondering, "Really, is this true?" Once we started recording the vocalizations, boy you could tell the difference between the alarm calls. And then when we saw an eagle attack the v

vervet monkeys, we recorded the eagle alarm and saw everyone come pouring out of the tree. And we looked at each other and said, "This is the real thing. It really is happening the way Tom Struhsaker had described it." Peter came out for a summer's work and together we developed the technique of how to do playback experiments. A little bit of filming before to establish baseline data on what the animals were going to do if you hadn't played an alarm call. Then we used the different alarm calls and we filmed the responses. The responses were really dramatic.

Bernard Wood (00:41:58):

You were both postdocs and then my understanding is that you—I'm not sure about Dorothy—were an assistant professor at Rockefeller University.

Robert Seyfarth (00:42:14):

Yes. What happened was that Rockefeller was really a research place and it just had a few permanent positions, but they would make you an assistant professor because that gave you the stature you needed to apply for grants. But then it came time to look for permanent tenure track jobs.

Bernard Wood (00:42:41):

But by that time you were a 'two body' problem.

Robert Seyfarth (00:42:43):

Yes, that's right. And this was at a time when universities were confronting for the first time husbands and wives or partners who were working together, who either both wanted positions or they were willing to share a position. Jack Bradbury and Sandy Vehrencamp—two people who worked on birds— were some of the pioneers, as they got a joint assistant professorship at the University of California at San Diego. So, we applied jointly for a job in the anthropology department at UCLA.

Bernard Wood (00:43:24):

Just remind me who was there at the time? Was Bernard Campbell there?

Robert Seyfarth (00:43:28):

Bernard Campbell was not there. Gail Kennedy was in paleontology, there were a few people in social anthropology, not very many people in our area. How do you live on one salary in LA? But we were, again, taken under the wing by Victoria Fromkin, later a very prominent psycholinguist, who was the Dean of the graduate school. And she said, "Apply to this group at the NIH and you'll get your other salary.' That made a big difference. So, we kept going back and forth to the Vervet monkeys. We linked up with various other people to work with us, so the vervets were under constant observation. We followed up the alarm call work with a lot more experiments and they all seemed to go pretty well.

Bernard Wood (00:44:34):

My understanding iss that you left UCLA in 1985 to go east to the University of Pennsylvania. Tell us how that happened.

Robert Seyfarth (00:44:51):

Because of our work with Peter Marler and our interaction with people working in what is now called cognitive science, we had become very interested in the question of intelligence and representation. A lot of the debate over our alarm call work centered around can you really say that a vervet monkey who gives a leopard alarm intends for others to understand that there is a leopard nearby, or is it just simply a reaction to the leopard? There were many different ways in which these cognitive questions came into play, and as much as we

were committed to field work, some of the most interesting cognitive questions were being posed by David Premack, who was a professor of psychology at Penn who worked on captive animals. He didn't have much time for field research. When we said, "Why don't you go out and watch chimps in the wild?" his response was "I have nothing to learn from them."

So, while we disagreed completely with him, but David Premack was a really smart, creative guy. And talking with him gave us lots of ideas about experiments we could do. So, Penn, through David Premack and others, were interested in recruiting us. They had a little bit of trouble convincing the administration that they should create two jobs. In the meantime, as we came up for tenure, UCLA countered by creating a second job for us. If we'd stayed at UCLA, we would've been in biology and anthropology, whereas psychology was recruiting us from the University of Pennsylvania. What else was going on at Penn at the time is that the faculty had noticed a lot of undergraduates were interested in getting training in the biological sciences, so thay could apply their training to investigate psychological problems such as depression and schizophrenia. So, they created a joint major called the *Biological Basis of Behavior* that was meant to be a mixt of neuroscience, clinical psychology, and behavior, and they needed people to teach the evolution of behavior. So, there was an opening that the faculty took advantage of to say, "We really need these two people." So, we were lucky enough to get two jobs at the same university.

Bernard Wood (00:47:57):

The other thing I'd like to ask you about is the books. What was the genesis of the books? When did you decide you had enough of interest to say that you needed to do it in the form of a book? And I want to commend you, because I think they're great books. The first thing I ever do when I read book's like yours is go to the Acknowledgements, and the acknowledgements in both of your books are a rich source of history about your research. Many people have perfunctory in their acknowledgements, but the acknowledgements in both books, which go on for several pages, are wonderful descriptions of how the research was put together and who was important for its completion. Just to go back to Nairobi in the 1970s. There was the group that included you and Dorothy and Andrew and Phyllis Lee who were all going to Amboseli or elsewhere, then the fossil people were mainly going north. My sense is that in many ways what you were doing was rather more interesting than what we were doing, but Nairobi was an interesting place to be at that time.

Robert Seyfarth (00:49:40):

It was great. And we all learned from each other's research. We had good times. We met at the same restaurants, and it was just really good.

Bernard Wood (00:49:52):

I'm trying to remember the place [The Hurlingham Club] where Andrew liked to go for lunch, where you could get a sandwich and a beer, where you ate outside if the weather

was decent enough in Nairobi. So, tell me about the books. Did the publishers come to you, or did you go to the publishers?

Robert Seyfarth (00:50:19):

Okay, we'd written lots of scientific papers, and as you know Journal Editors will not let you speculate in discussion sections of scientific papers if your speculations creep even an inch beyond the data that you presented in the paper. We wanted to be able to write without that particular constraint. The second thing is that we wanted to bring together two areas of research that were growing, but were not connected. They were the questions and problems of cognitive science, and the apparently growing complexity of primate behavior. Of course, the inspiration for this was Nick Humphrey's 1976 paper in which he talks about the origins of intellect and says that the real challenge these animals face is the challenge posed by the other animals in their group. You couldn't get that from comparative psychology, which is done in labs on single animals with experiments that bear no relation to real life. And you didn't get that from most primate field ecologies, because following E.O. Wilson, everybody was interested in the function and the determinants of reproductive success. Nobody was interested in trying to explore the cognitive processes that led to one thing or another. So, we wanted to bring cognition and social behavior together by writing a book. At that point, we were also very influenced by the philosopher, Daniel Dennett, who had written a very provocative behavioral and brain sciences article that took our vervet alarm call work as a springboard for asking a whole lot of philosophical questions about the mental mechanisms involved. So, we said to each other, "Well, we want to write this book and we want to bring these areas together, and what should we do? Who should we see as a publisher?" Dan's advice was, "Don't even think about a publisher. Write the book you want to write, write your book." So, we said, "Okay." Plus, by that time we had helped edit *Primate Societies* and we met Susan Abrams, who was the fantastic editor at the University of Chicago Press. And so, when we finished writing *How Monkeys See the World*, we aske, "Would you publish it?" And she said, "Yes."

The advice we got from Dennett was really good, because he gave us the confidence to say, "Okay, damn it, we're going to write the book that we want to write."

Bernard Wood (00:53:29):

But I guess getting advice from Daniel Dennett is not exactly... He's not nobody!

Robert Seyfarth (00:53:40):

No, but we had made friends with him and after the vervet alarm call work was published he came to visit us in Amboseli, and went out and watched Vervet Monkeys with us. We became very good friends with him. And we had the pleasure of introducing him to Nick Humphrey. Neither of them had met the other, and they became lifelong friends.

Bernard Wood (00:54:04):

When did you decide on the title of the books?

Robert Seyfarth (00:54:14):

That's interesting. *How Monkeys See the World*, I think we just sort of came up with that jointly. As for *Baboon Metaphysics*, Dorothy read once again the famous quote from Darwin's M notebooks "Study baboons, because you'll do more toward metaphysics than Locke." And she said, "Okay, we've got the title for our next book." Yet,there were people who said, "*Baboon Metaphysics*? Are you kidding?"

Bernard Wood (00:54:59):

I think it's a great title.

Robert Seyfarth (00:55:02):

I think it's a good title too.

Bernard Wood (00:55:03):

Both of them are good titles and I'm very much of the opinion and the prejudice, that the title of papers and books really matters. After that you worked in Botswana?

Robert Seyfarth (00:55:28):

Yes.

Bernard Wood (00:55:30):

Tell us about that.

Robert Seyfarth (00:55:32):

Well, Amboseli was changing ecologically and changing in a way that caused the demise of the vervet monkeys. Basically, we lost our research subjects as they slowly died off, and we were looking for another research site. We thought for a while that there were some interesting theory of mind experiments that we couldn't figure out how to do in the field. So, we had a chance to do some work at the California Primate Research Center on captive animals, because there we had a little bit more control. And we thought, "Well, maybe this will be a good idea." We hated it. I mean, the muse was gone. It just didn't work for us. But at the time, Bill Hamilton, that's W.J. Hamilton who had been working in the Okavango on baboons was getting close to retirement and he said, "Why don't you come and take over this project? The baboons are habituated. There's a camp that you'll have to rebuild and there is one guy that you can hire who still knows the kinship and can teach you all the individuals." We were looking for a place where we could do joint experimental and observational work, so I went out to check it out. it was ideal for doing experiments and it was also really good for taking our kids. And so, it was just an ideal site. And so, as we moved from UCLA to Penn, we started up the project in Botswana.

Bernard Wood (00:57:24):

Where did you get research funds for that?

Robert Seyfarth (00:57:34):

We had some startup money from the University of Pennsylvania that helped us buy a vehicle, which we needed. Then, we got a National Geographic Society grant, and then an NSF grant, and then later an NIH grant.

Bernard Wood (00:57:57):

Robert, when did you and Dorothy stop going into the field? When did you realize, you had your own students. When was the last time you had a good time in the field?

Robert Seyfarth (00:58:21):

All through the 1990s, it was great, and for the first five or six years of the 2000s, it was great. Then the Botswana government was advised by some foreign people who told them, "You shouldn't have camps in national parks." They wanted to move our camp out of the national park where it had been for ages. That made things much more difficult, because of the logistics of the swamp and the flooding seasonally, so we couldn't get to the baboons as easily. So, in 2003 or so, I gave a talk to government officials. We had just renewed our NIH grant for another five years. And I said, "Well, please let us keep our camp for five years." They said, "Fine.", but when 2008 came around five years later they said, "No, we're not going to extend it." In retrospect, it was a nonsensical way of doing things, because there are so few people up there. But in any case, that decision gradually drew things to a close, and we weren't that interested in starting up a new field site. That seemed to be an enormous proposition. We did a little work with Sandy Harcourt and Kelly Stewart on gorillas. That was fun. They're our lifelong friends. But things got complicated, then Dorothy got sick and so it became clear we were not going to do fieldwork anymore. It sort of trickled off in the end.

Bernard Wood (01:00:33):

Robert, what advice would you give to somebody these days who was interested in doing primate field work? I'm going to lump Dorothy and you together, A lot of what you did was highly contingent, and as you rightly point outsay, your joint work took place at a time when almost everything you did was new. It's very different now, and as you've also observed you have to occupy a much narrower research niche. It's a very different world, is it not?

Robert Seyfarth (01:01:33):

Well, I guess my advice would be if you were an undergraduate, get a really good degree in the biological sciences, and then attach yourself as a research assistant, be willing to do anything to contribute to one of the long-term studies. And yes, it's true that you've got to

be more focused to try and create a new niche, but long-term studies have the virtue of there's always something new. For example, look the front page of the New York Times today and there's a long article about John Mitani chronicling the wars between these chimps at Ngogo. Who would have predicted that four or five years ago? Who would have predicted in gorillas that the long-term data would show that females move from one gorilla group to another, and they preferentially associate with their old female friends from their prior groups? So yes, you have to specialize a little bit more, but also these long-term studies are revealing new and better data of all sorts. And new technology is being brought to bear. We can get genetics from fecal samples, and C-peptide information that tells us a lot about what they were eating. We can get hormonal information that tells us which animals are under stress, and we don't have to catch them to do that. So that it's naturalistic and it's much more effective scientifically. Frankly, people doing field work have done a lot more to incorporate lab techniques into their research than lab people have done to make their research more naturalistic.

Bernard Wood (01:03:27):

That's a wise observation. I think that's true. When I was in London, I worked in the same department as a developmental biologist called Lewis Wolpert, who was a wonderful guy. And he said to me "My boy, it's better to sweep the floors in a good department than to get a salary from a mediocre department." So, go and sweep the floors!

Robert Seyfarth (01:04:08):

Yes, exactly. And because they have a lot of people running these long-term sites, and there are quite a lot of them now, they have more data than they know what to do with. They need assistance. Go and see, and you'll find out if you are a field person? Some people go into the field and they hate it, and they shouldn't do it. Other people go and they say, "I never want to do anything else."

Bernard Wood (01:04:42):

I know. It's a binary thing. I'm convinced there is a gene for being able to enjoy and exploit the opportunities from field work.

Robert Seyfarth (01:04:55):

Yes.

Bernard Wood (01:04:56):

I'm not sure I have it, but I admire people who do. We're getting towards the end. Are there questions that you would've liked me to ask that I haven't asked? Or let me ask you, while you're thinking about that, where and how did you learn to write so well?

Robert Seyfarth (01:05:34):

At the boarding school I went to.

Bernard Wood (01:05:36):

Really?

Robert Seyfarth (01:05:36):

We once asked Nick Humphrey, "How did you learn to write so well?" Nick said, "Oh, Robert, you'd write well too if you had to write an essay a day since you were six." Nick had the classic English public school education, and both Dorothy and I went to boarding schools where we had to write all the time and we actually loved writing. Those books were labors of love. It was a lot of work, but we really enjoyed doing it.

Bernard Wood (01:06:15):

Did the process of writing result in you thinking about things in a different way than you had before?

Robert Seyfarth (01:06:28):

Certainly. They sharpened what we thought, because we would debate with each other. Both of us are of the type "I don't know what I think till I see what I've written." And you read your own writing, and you think, "Well, that doesn't sound right."

Bernard Wood (01:06:50):

I'm on that team. For me, because I used to stammer as a kid, writing was a way of talking that didn't embarrass me. And it always seemed to me that writing was a way of getting your ideas straight. You have to have ideas, but writing means that you have to put them in a certain order.

Robert Seyfarth (01:07:22):

Yeah.

Bernard Wood (01:07:23):

Does that ring any bells with you?

Robert Seyfarth (01:07:25):

That is certainly the same with me. Another person who was really helpful in writing was Bob Trivers. I spent a lot of time passing essays back and forth with him, and he was ruthless with his criticism. At one point he said, he wrote on one of my essays, "You are verbose to the point of self-parody." That makes you think about, should I be saying this or not?

Bernard Wood (01:07:57):

Have you written many book reviews?

Robert Seyfarth (01:08:10):

Not really.

Bernard Wood (01:08:16):

What did you think of the reviews of your books?

Robert Seyfarth (01:08:21):

Well, I must say they were very favorable. I mean, Alison Jolly wrote some wonderful book reviews in prominent places. We got a little bit irritated that places like the New York Times thought our books were too scientific, because especially with *Baboon Metaphysics*, we tried to play down the graphs and play up the interesting issues. But anyway, the reviews were quite good. We felt good about them.

Bernard Wood (01:09:08):

To go back to the question I asked you. In these interviews, depending on the person and depending on me, although I suggest there is a range of questions that I might ask you, there are many things that I haven't asked you. Are there any things you would like to say about yourself, about your career, orabout Dorothy, that we haven't covered already?

Robert Seyfarth (01:09:49):

About our careers, you could interpret it as a series of lucky accidents. We were lucky to get Robert Hinde as our PhD advisor. We were lucky to be exposed by Peter Marler tand a whole world at the interface between animal behavior and cognitive science. And we had the opportunity to follow up on ideas that reflected these syntheses. I said earlier that one of our goals in writing those books was to bring together the questions and work of cognitive scientists with the notion of evolution of complex animals living in their natural habitat. That hasn't succeeded in my view, because it's still the case that the vast majority of people studying the social behavior of animals, and particularly primates, are interested in behavior rather than cognition. In the factors that affect reproductive success, rather than the question of what is the nature of a mental representation? What does it mean to say that this animal communicated to another, and experienced the consequences? Those questions are not being addressed. I know that there are some people who are interested in them, but you've really got to combine a tradition that comes from cognitive psychology with the tradition that comes from zoology and fieldwork. Bringing those two together is hard.

Bernard Wood (01:11:45):

That's wise. My prejudice is that people have a problem accepting that much of the cognition that modern humans do is actually not necessarily terribly special.

Robert Seyfarth (01:12:09):

Yes.

Bernard Wood (01:12:12):

Who do you admire as a scientist? Are there people who you think are rather special scientists?

Robert Seyfarth (01:12:36):

Certainly Tim Clutton-Brock is someone who is focused and analytical, and pushing the envelope. Among contemporary scientists, Susan Alberts; let me just keep thinking {Joan Silk}.

Bernard Wood (01:13:07):

It's really unfair, but I'm always interested in who people's heroes are.

Robert Seyfarth (01:13:17):

John Mitani and Anne Pusey, people who do work on chimpanzees without fanfare, without publicity. Their work is so analytically sound it will last. Although Dan Dennett was a philosopher, he liked to design and think about experiments. That was really provocative in our professional lifetime.

Bernard Wood (01:13:58):

And in terms of yourself, there seems to be an interesting mixture of nature and nurture. You have probably stressed the nurture. What about the nature? an you see individuals in your family from whom you might have got this sort of ability?

Robert Seyfarth (01:14:28):

My father was a very analytical person, an engineer. Dorothy comes from a much stronger intellectual tradition. Her mother was an extraordinary person who spoke multiple languages and never really did that much in the way of a career, but she was really smart. We're not like Nick Humphrey, with various Nobel Prize winners on either sides of our families!

Bernard Wood (01:15:11):

Well, the rest of us have to manage, I guess?

Robert Seyfarth (01:15:15):

Yes, right. Exactly.

Bernard Wood (01:15:18):

Robert, is there anything else you would like to talk about before we draw this to a close? I want to thank you for such an interesting account of your career. Is there anything else you would like to add?

Robert Seyfarth (01:15:37):

No, except a plug for the Leakey Foundation, which is now increasingly the main support of work in primate behavior and human paleontology. Srving on the Leakey Foundation has been an absolute pleasure for me, because it's allowed me to keep my brain active and keep my hand in, and that makes a big difference. It's also a source of optimism, because every funding cycle we get promising proposals for research from young people, people who are way younger than I am, that are just starting out their career and they're really good. That suggests the field is going to flourish.

Bernard Wood (01:16:26):

Good.

Robert Seyfarth (01:16:26):

Maybe flourishing a little bit more in Europe right now than it is in the United States, but still.

Bernard Wood (01:16:32):

Well, let's hope the arc of history still has something in it.

Robert Seyfarth (01:16:43):

Yes.

Bernard Wood (01:16:46):

Robert, it's been a pleasure. Thank you for your generosity, and thank you for your time.

Robert Seyfarth (01:16:53):

It's been an honor to be part of this.

Bernard Wood (01:16:55):

Thank you, Robert.

Robert Seyfarth (01:16:56):

Great. I hope we'll see each other soon.

Bernard Wood (01:16:59):

I hope so too.

Robert Seyfarth (01:17:02):
Goodbye, everyone.