

Charles
Birch

The Birth of “Ecological Sustainable Society”

From an interview with Charles Birch ♣ (Radio National, Australia, 7/4/2002)

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Do you think that often, when people are blinkered, it's because they're afraid?

Because they're afraid? Oh, yes. I think what I've learnt is this. That for the person who has blinkers and is very committed to a position, which is wrong, you can have very little influence on that position unless you show them an alternative which is more attractive. But just to be negative and say, 'Look that's a stupid idea, everybody's shown that to be wrong,' only makes it worse. But if you can say, 'Look there's an alternative that you haven't even begun to think about, which is jolly good. Just think about it.' That's what happened to me, you see. I mean, both things happened at the same time. I was told in Adelaide [at the Waite Institute ♣], you know, 'It's a lot of nonsense you believe in.' But, 'You know, there are other ways of looking at this.' That's important in teaching because I learnt slowly that you should never with a student be negative....

So, when you were in Adelaide, your whole world widened out. It widened out in your scientific perspective. What happened to your philosophical perspective?

Oh, that's very important, because my colleagues, particularly the one who was supervising me, used to think I had very strange views on religion, which I think I did have. And he was very anti-religious. He thought that this was a cause of a lot of trouble in the world. And so we used to have lots of discussions with him, me trying to defend my position, he trying to say 'Well, with a scientific view of the world you can't possibly believe those sorts of things.' He said it much more gently than that. And I found I couldn't answer his challenge. I really couldn't answer. So I said, 'There's something funny about the track I'm on if I can't really... account for it....

I was trying to integrate two areas of my life. The scientific side, which is very clear cut, and the religious/philosophical side of my life, which had been clear cut, but which was now — things were falling apart. The bottom was dropping out of the bucket in a sense. But I was looking for some alternative. I very much wanted to have a united way of looking at my understanding of the world around me....

Your time at the Waite Institute opened up the world to you mentally and in a way physically you were looking at a much broader horizon than when you'd been at school and university. And, this change started you on a search to see whether or not you could integrate what you were learning in science with your need to continue, to believe, in something. What was the next big stage of your life that helped you in this quest to try

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and find a way to integrate science and religion?

Yes. Well, I'd spent a lot of time thinking and discussing this whole area. . . .

I think the debate has broadened so that the questions that one is asking now is: How can you. . . prevent the species from disappearing from the face of the earth as human beings interfere with the environment? What is the nature of those interferences? What can we do about it? So it impinges on a very, very practical thing of really saving the environment of the world. Be it rainforest, or wheat, or outback in Australia. And I think that in a way we know very little about the details of that. My friend Paul Ehrlich ♠ has a very good image of this and he says it's as though you're going to [board an] aircraft and you see that there are some people on the wings of the aircraft and they're pulling out rivets. And you say, 'But that's a plane I want to fly in.' And the people who are pulling out the rivets are saying, 'Oh, we can get a dollar a rivet and this few won't matter.' 'Well, how many are you going to keep on doing?' 'Oh, the wing hasn't fallen off yet.' Well, Paul Ehrlich's image is that that's the world, you see. I mean, the world of nature, we're pulling rivets out, the species that are disappearing. But we don't know how many will disappear before the wings fall off. It's a good image. But we don't really know what are the critical species and what it is that preserves them. So the whole notion of understanding what determines the numbers of animals and plants becomes very important in the modern world. So ecology has risen to an issue of top importance. . . .

It's as though you're going to board an aircraft and you see that there are some people on the wings of the aircraft and they're pulling out rivets. And you say, 'But that's a plane I want to fly in.' And the people who are pulling out the rivets are saying, 'Oh, we can get a dollar a rivet and this few won't matter.' 'Well, how many are you going to keep on doing?' 'Oh, the wing hasn't fallen off yet.'

But the theoretical disagreement, could you encapsulate that for us? What it means in practical terms?

In practical terms it would mean that, if you want to know what is causing the extinction of species, one group would say that the important thing is the total environment. You've got to look at the way the weather is changing, the way the plants are being changed with the clearing of forests and so on. And a whole lot of things. The nature of the soil is deteriorating. The other would say that there are relatively few things. Perhaps there are predators responsible for this extinction. Perhaps the food is running out. In other words, it's a much simpler thing. And the people who are on that side tend to be the ones who are making rather simple mathematical models. And I learnt something from Whitehead, which is a very important principle: seek simplicity, but distrust it. There are a lot of people who make simple models of the world, including the environment, but distrust their models. You should always distrust something which is simple. Now Andrewartha, my colleague, and I always found everything was far more complicated than we thought when we started. . . .

You should always distrust something which is simple.

The world certainly wants to hear simple solutions?

Of course it does, right through. Science wants to make simple solutions.

But you're in a situation where you're also trying to sell an implication of a complex model of what's wrong, that we might have to change how we behave.

That's right.

Whereas your opponents think that this simple problem can be managed by us.

I think it can be true to say some of them think that, but others don't think [that] at all. Actually this is a very difficult area. You see, if you go back to the rivets on the plane model, we don't know enough about the detailed relationships to know which ones are the species we have got to be really careful about to save....

Because biology established itself after Darwin by trying to get as much evidence as possible to support the fact of evolution. And that was through comparative anatomy. It was through studying the different species, the differences between them. You know, morphological differences. I thought pretty dull stuff. People would be studying bones and muscles and all this sort of stuff. And that was what biology was thought to be. And if you're a biologist what you needed to be able to do was to know all plants and all the animals from A to Z. I didn't know that. So I was not really part of the culture, you see. I came in through the back door.... I wasn't — in a sense I wanted to challenge the citadel. Or actually, stronger word than challenge, I wanted to sort of really attack the citadel of old-fashioned biology. It took a long time to get there.

And your interest was how all those things from A to Z related to each other and where they fitted in the scheme of things?

Well, yes. You see my prime interest was what is now called population ecology. And that really is — you take a single, any particular, species like a rabbit, I took various beetles: What is it that determines whether they're common or rare? What can make them extinct? What determines their numbers? What determines where they are when they are? So it's very important if you want to know how to get rid of rabbits to know those sorts of details. What limited them from going halfway through the tropics? There they stop when they get halfway through the tropics. How far, low down, will they go in terms of cold? That sort of thing.

I suppose I'm interested in why it is that scientific establishments are so conservative. Because it seems on the face of it that what you were interested in, and the questions you were asking, were so obviously in need of asking, that people would have been interested?

Oh, I think the scientific establishment is interested, I mean, if you want to get ahead fast in the scientific establishment, you dig your roots into areas which are already well-established; they're recognised. The scientists are very reluctant to accept something from outside that established area....

Did your membership of the Club of Rome give you a bit of clout?

Yes, it certainly did because whenever I was referred to in the newspaper I was always referred to as the prestigious Club of Rome member, which was ridiculous, you see. But it gave quite a bit of clout, yes.

It's a good name, isn't it?

Oh, wonderful, really sounds as though you're up on the top echelons. And they were a bunch of dedicated and wonderful people. I mean, there were a few politicians in it and there were a few scientists. But mostly they were business people and industrialists. So it was an interesting bunch of people. They of

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course knew nothing about the details of the effects of industry and what-not on the environment, what was happening to resources. So they commissioned a group at the Massachusetts Institute of Technology, MIT for short, to do the study which ended in *The Limits to Growth* ♣. So it was a commission thing. Nearly all their activities were commission things to write this book for the Club of Rome. But, that's what happened. And then, you see, after I got into the Club of Rome, I thought, well what we need is a *Limits to Growth* thing for Australia, dealing with the Australian detail. That's why I wrote the book *Confronting the Future*, which is essentially pretty well everything that was on the Club of Rome agenda. But I put it into an Australian context...

You were there fairly much at the beginning and then it was taken up by some powerful political forces?

Pierre Trudeau, who was then Prime Minister of Canada, said that yeah, he agreed with all this. But if he went back preaching that in Canada he'd lose his seat in five minutes.

I think that's the political scene really, that the politicians will not act on any of these things, be it forest, soil, erosion, what have you, unless there is a grass roots movement supporting it.

Well, politicians became interested in the possibilities, and the Club of Rome actually aimed at politicians first. And one of the... I suppose *the* biggest meeting they ever had, there were about 30 heads of state, 30 prime ministers at a meeting in Europe, and they talked about all these things. And, Pierre Trudeau, who was then Prime Minister of Canada, said that yeah, he agreed with all this. But if he went back preaching that in Canada he'd lose his seat in five minutes, you see. I mean the population was not ready for it. And this is very interesting because it means that the politicians realised there was no possibility of them putting forward something that was cutting across traditional pathways, unless they had support from the grass roots. And, it was the realisation of that, I think, that led to the formation of lots of grass root movements around the world. So that in Australia today there are over 30,000 grass root movements. What I mean by that, a group down at Botany Bay who's looking after the quality of water at Botany Bay, that sort of thing. Hawkesbury River, what have you. Forests. And, I think that's the political scene really, that the politicians will not act on any of these things, be it forest, soil, erosion, what have you, unless there is a grass roots movement supporting it, who's going to vote for them.

At what stage did the notion of sustainability enter the picture?

In 1974. In other words, that was two years after the *Limits to Growth* book came out. And that happened in a rather unexpected way. It was a World Council of Churches conference of the group I was in, on the limits to growth. Well, it was more than the limits to growth, it was the whole of technology and future, but limits to growth was part of it.

Where was that held?

That was held in Bucharest. And I was put in charge of a working program on the limits to growth. And I had with me the young author who had spoken earlier to us about limits to growth, the chap who was an author of *Limits to Growth* called Jorgen Randers. He was a Norwegian. Very charismatic young man, he was, you know, really, you've probably got to listen to him. Well, we had this workshop and after the first meeting Randers said to me, 'Charles, we're getting nowhere with this *Limits to Growth* stuff because the Third World don't want limits to growth.' They all say, 'You had your turn, the rich coun-

Randers said to me, ‘Charles, we’re getting nowhere with this Limits to Growth stuff because the Third World don’t want limits to growth.’ They all say, ‘You had your turn, the rich countries, it’s our turn to grow now. Don’t stop us from growing.’ And Randers said to me, ‘It’s too negative, limits to growth. We want something positive. Let’s try, the ecologically sustainable society.’ So we put over this notion of a sustainable society and all the Third World crowd said, ‘Yeah, that’s great. We all want to have an ecologically sustainable society.’

You had to have good images and they’re very hard to get, parables. But you also have to have good descriptive phrases and ‘ecologically sustainable society’ caught on.

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tries, it’s our turn to grow now. Don’t stop us from growing.’ And Randers said to me, you know, ‘It’s too negative, limits to growth. We want something positive.’ ... He said, ‘Let’s try, the ecologically sustainable society.’ In other words, the society that’s going to be sustained indefinitely into the future because it’s using its resources and industries appropriately. So we went back to our group after coffee break. We put over this notion of a sustainable society and all the Third World crowd said, ‘Yeah, that’s great. We all want to have an ecologically sustainable society.’

And it caught on. A very important phrase. And we then had it accepted by the plenary, big plenary session, Margaret Mead and all these people were there. And it came out as the number one new thought, you see, for the World Council of Churches. [...] So it really got places. And people began to think about these issues. Now that taught me a lesson that, I really knew, already knew, that you had to have good images and they’re very hard to get, parables. But you also have to have good descriptive phrases and ‘ecologically sustainable society’ caught on. Now that was, the World Council of Churches in world terms is not such a big outfit, but in a very quick way, people started writing books about the sustainable society. They never acknowledged where it came from. In fact, when the head of the World Watch Movement in Washington produced a book called *The Sustainable Society*, I wrote to him and said, ‘Do you know where that phrase came from? You don’t mention it.’ And I told him. And he said, ‘Oh that’s great, I’d expect Randers to produce something good like that.’ ...

And, at this point in time in Australia, sitting where you sit now, after watching this movement develop, find its feet, get its grass roots support, get its slogans and its images, this enormous and amazing growth in the movement. ...

Yes, fantastic. Yes.

Does this make you feel optimistic about. ...

Oh yes. I’m always optimistic because any alternative attitude is destructive. You know, if you don’t have a hope for the future, if you don’t see the little things that could be lights at the end of the tunnel, then you’re just reinforcing the present situation.

And what in the present system and what in the present situation do you feel is negative and needs to be dealt with?

Oh, well, the most difficult aspect in Australia is convincing politicians that they’ll get votes on anything to do with population control, anything to do with conserving forests and grasslands and things like that. ... I used to go round to lots of high schools and I used to get tremendous response, particularly in Sydney in the northern suburbs. But when I went down south, and west, there’s much less enthusiasm because it suggested to them that I was proposing a future where there’d be less economic growth and fewer jobs, you see. And they wanted jobs. They wanted to improve their situation. That is a hard one to deal with. Except that I would now claim that what you’ve got to say is the ecological sustainable society is one which may not have more goods in it, but it’s going to have a higher quality of life.

And jobs associated with sustainable...

And jobs associated with trying to work out new sustainable ways of producing energy, such as from sunlight and from wind. Oh, there are lots of good positive things to deal with....

Now, we've looked at the way in which over the period that you worked as a biologist your world view slowly expanded, and it was a sort of journey of discovery about the implications of science for the environment and for the future, and understanding it. At the same time another journey was going on for Charles Birch, which was the exploration of his spiritual life. What happened during the period that you lived in Sydney. How did you evolve your thought about religion, about a spiritual life and about life's purpose and meaning?

Well, it was a combination of still thinking about the sort of world revealed by science, and how that related to the sort of world revealed by religion or whatever you wanted to call that, the other way of looking at things. And so I was concerned about the relationship between science and religion and what truth their might be that comes out of this sort of interaction. I mean, when I began thinking about this, most people had kept these in different compartments, but I was not prepared to do that....

So, in rejecting the God that was taught in churches, you didn't feel any necessity to reject the idea of a God at all?

No. No.

What kind of God did you believe in?

I think my faith was basically this, that I related in some way to a reality greater than myself that contributed to my life. And that my life contributed to some extent to that reality.

There's something bigger than me that I relate to, that helps to fulfil my life and gives me meaning and purpose.

Well, I think my faith was basically this, that I related in some way to a reality greater than myself that contributed to my life. And that my life contributed to some extent to that reality. The reverse thing as well. In other words, I was living not just for myself, but something bigger than myself. Now that sounds very abstract, but if I put it into more concrete terms I think it becomes too simple. But you get the idea, that I am not alone in the universe, there's something bigger than me that I relate to, that helps to fulfil my life and gives me meaning and purpose. And that I as well make a contribution to the life of God if you like and that reality.

Now is that something, that reality, which is how you've described God so far, an abstract idea, or is it personal?

I would say that God is personal, but not a person.

It's both. You see, I've got to be very careful to use the word 'personal' because people immediately think of an individual person. I don't think God is an individual person, God is related to all entities that exist in some way, you see, so that the idea of a person turns God into a sort of substance, an object like a chair. And I don't think that makes any sense.... I would say that God is personal, but not a person....

I would say that this model of God, if you wanted to talk of it as a model, is an ecological model because it emphasises relationships.... I bring the ecological thing right into the whole picture. And it becomes very, very persuasive — very pervasive is the word I want. I'm not sure it's very persuasive yet. But very

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I don't like the word designer because it conveys the notion of God as a sort of architect, engineer, who's making blueprints, then builds the thing according to the blueprint which is nonsense. It doesn't work that way. We know that evolution doesn't work that way. So, I'd rather use the word purpose. That there's a sense in which God has some purpose for the future.

pervasive because the simple principle is this: that human experience, the experience I have as a human being, is a high-level example of the nature of reality in general. In other words, the nature of a pussy cat, the nature of the leaves on the trees, the electrons, the protons and so on. That's the model. In other words you work from the top down, instead of trying to say, 'What do you do when you build up atoms into bits and pieces?', and so on, you work out, you get a machine that way. I don't believe that we're just machinery.

One of the principles of the nature of things in an ecological sense is its change and its evolution. Does your God change?

Yeah. Sure.

So, 'Oh God who changeth not,' is not going to abide with you?

That's okay. You can have it both ways. I mean, I would say there's a sense in which there's an aspect of God that's unchangeable. But there's an aspect of God which changes. And it's as simple as this: there's an aspect of me which is unchangeable, I'm still Charles Birch tomorrow, but tomorrow I'm a different Charles Birch. I hope I never wake up the same person every day. But there is a sense in which I am the same. Now, so, God, yeah, the same for yesterday, today, forever. You can have that, that's fine....

Darwinism gets rid of the classical notion of God as the designer. And I don't like the word designer because it conveys the notion of God as a sort of architect, engineer, who's making blueprints. And you know, then builds the thing according to the blueprint which is nonsense. It doesn't work that way. We know that evolution doesn't work that way. So, I'd rather use the word purpose. That there's a sense in which God has some purpose for the future. It's not worked out in detail, but there are possibilities there. That from the foundation of the world, or at least our world, from the Big Bang, there was a possibility of human beings coming out of that.

And for you these are built into the principles that nature operates on? The way in which things evolve? The way in which....

Oh, absolutely, yes.

That's where God is?

You see, I think science has done a very important thing for theology. It has shown us what are the false views and the views that were superstitious and that necessarily arose in a pre-scientific era. And so it gets rid of, I think, a lot of the dross....

Now, one view that has been a dominant paradigm in the way in which scientists have thought, has been of reality operating off a mechanistic model. How has that changed in scientific thought in recent times, and for you?

That's a good question. It's changed a lot in physics, very little in biology. I'm not sure why the difference, but....

It seems very surprising, doesn't it, because the notion of a living organism is something that biologists look at all the time. And the fact that that operates differently from a

The way the biologist has gone traditionally about studying living things, is a mechanistic way. And it has worked, to a point. But it doesn't tell me anything about my feelings, about consciousness, about experience. Biologists have therefore said, 'Let's stick to where we can get some answers.' If you want a Nobel Prize, you don't go and work on something which is going to take ten centuries to get the answers to.

clockwork blueprint is evident.

Oh, absolutely. Yeah. Except that the way the biologists have traditionally studied the living organism is in terms of the living world as a piece of machinery. Study the heart as a pump. Study the muscles and the limbs according to Newtonian laws of physics, you know, the laws of motion. And the brain as a computer. So that the way the biologist has gone traditionally about studying living things, is a mechanistic way. Look at it in terms of a piece of machinery. And it has worked, to a point. But the point at which it doesn't seem to work, it doesn't tell me anything about my feelings, about consciousness, about experience. That just has not responded to that particular approach to studying the living organism. And biologists have therefore said, 'Let's stick to where we can get some answers.' If you want a Nobel Prize, you don't go and work on something which is going to take ten centuries to get the answers to. So you work on things that you know you get some answers to. And, now physics, for some reason or other, I'm not quite sure, has gone on a different line with quantum physics. Now quantum physics, of course, says there aren't any particles. There isn't a universe of bits and pieces. It's relationships. It's network. All the images are different. . . .

But again, why do you need to have God in this picture, could it not just be that for a period, science, that is the method of looking at things in an investigative way, with experiment and observation, hasn't yet got to the point where it understands a lot of these things, but eventually, if it remains open-minded and keeps working, it will eventually get to explain them? Not necessarily in the way they think, but in some other way?

Yes. Yeah. Well that's the. . . . I think that will be the dominant view. And people write books about that and they say that, so I think there are at least two ways of looking at it. That is, one way is to say, 'Well, give us time. We shall find the solution for that. Give us time, we'll understand what consciousness and feeling is. Working with the methods that we've got at the moment and these great new mechanistic ways of looking at the world, biology in terms of molecular biology. See we've got some different thoughts.' That's one way. Another way would be saying, 'Perhaps the mechanistic model is not the best model. It tells us a lot but it doesn't tell us everything. Is there another model?' And that's the line that I'm interested in. . . .

A term that is used by scientists quite a lot is reductionism. You try to understand the living organism, my brain, in terms of reducing the brain, the complex things, to the elements to which it composed, which are cells called neurones, to the molecules of the cells, to the atoms. And when you've got all that detail, you will understand how the brain works. Well, you understand a lot about the brain that way. But. . . . what do we know about experience and consciousness. Is there a way in which we can look at the world in terms of an experiential model, rather than just the mechanistic model? So that's the question. Now it's a minority position, but I think it's worth pursuing because reductionism has its limitations. . . .

I think science is always worth pursuing. And that it ought to know when it's got a sort of impasse and can't get any further in that particular direction. But I

I think science is always worth pursuing. And that it ought to know when it's got a sort of impasse and can't get any further in that particular direction. But I think psychology is a good example of something that went right down the wrong track.

think psychology is a good example of something that went right down the wrong track. For the sake of behavioural physiology, with all these Skinner boxes, and rats and mazes and things... All that matters is what you observe the animal doing. That you've got to explain, so forget about experience. So that the rat can't possibly have any thoughts in its head. It can't possibly have any purpose. If it does, you'll never be able to find out what they are. So just, well now, behaviourism is finished. It may not be finished in university departments, but it's finished as a viable theory of how the living organism operates. So you've got to start somewhere else again.

Why did the Wayside Chapel seem to you to be a much more attractive option than your local church?

Oh, because it was an eye-opener to me. Something was happening that I didn't know was happening. And it happened from the very first meeting that I had at the Wayside Chapel in which Ted asked me, Ted Noffs asked me, to give three talks on philosophy, whatever that... And, it was in the Wayside Chapel theatre, the bottom part of the theatre, and that opened into a lane in Kings Cross. And the doors were open which I thought was a bit funny because all sorts of people were wandering past. But gradually the place just filled up with people wandering in from the street. And I thought, 'This is great.' I mean, 'fancy giving a talk on philosophy and religion and so on, on science and religion, and people wandering in from the street in Kings Cross to talk about it.'

What kind of people?

I can tell you exactly. Three young men came up to me after that very first discussion and said, 'Will you come and have coffee with us, cup of coffee with us.' So they took me along to a coffee shop nearby. They talked and talked about various things. And it was revealed, they'd revealed to me, that one of them was a schizophrenic who'd been released from a mental hospital but he was, you know, he had his ups and downs. A second one was a thief, just got out of Long Bay Goal. They were all very young guys. And a third one was a male prostitute. Now I thought, 'This is pretty wonderful. I mean, here is a little thing representing the church in which these people come and talk to you.' On the whole the church doesn't have any room for such people. Or they wouldn't even think of going into a church. Well this didn't look like a church, it was a theatre. So I thought, you know, that's the sort of people.

So these three plus a lot of the others then decided that we would form a discussion group, so we met on a Friday evening in Ted Noffs' office, sitting on the floor, and we'd discuss all sorts of things. But I found it was better if we had a book they could read. There were two books that appealed to these guys. I mean, there were guys and girls but I'm thinking of the guys that I met initially. And the two books that they really liked, one was Eric Fromm's *The Art of Loving*, that was terribly important, and the second was Viktor Frankl's book, which was written in a concentration camp, called *Man's Search for Meaning*. Now it was interesting because *Man's Search for Meaning* meant that these people, these kids, were looking for meaning and hadn't found it. And here was somebody who was in the most awful circumstances, you know, a concentration camp,

If somebody comes with a deep personal problem, the best thing I could do would be very often to introduce them to somebody else who had the same problem. 'Cause they all thought they're alone in the world, they're the only ones who had that mess in their lives. So they all helped one another. They were resources for each other.

Was there a purpose to the foundations of the universe? Try and work that one out.

It's a much more feeling universe than a substance, materialistic, sort of universe.

with no hope to get out of it, and he can write a book about meaning. So that really spoke to them. And *The Art of Loving* was important because they had very strong relationships with the kids in the area. You know, if there was a runaway kid in the area and he had no home, 'Come home with me. I only got a room but you can sleep on the floor.' That sort of thing. And that really appealed to me. You know, I thought, 'This is a very, very, very interesting thing going on amongst human beings here.'...

One of the lessons I learnt was, and I applied this with students later on, and that is, if somebody comes with a deep personal problem, the best thing I could do would be very often, very often, to introduce them to somebody else who had the same problem. 'Cause they all thought they're alone in the world, they're the only ones who had that mess in their lives. So they all helped one another. They were resources for each other....

We had — the people we basically had in the group were dropouts, runaways, well, prostitutes. People who were on the periphery of society. And, I remember, I was coming back one Friday evening in a plane from a meeting in the Australian Academy of Science in Canberra, a council meeting. I was sitting next to a guy who was also on the council who was a businessman, and he said, 'What are you doing tonight?' And I said, 'I'm going to the Wayside Chapel. I've got a group down there.' He said, 'Oh, you shouldn't waste your time doing that.' And I said, 'Well these are real human beings. I mean they're wonderful people.' And I discovered that these were, this was real humanity. And the interesting thing was that they were so open to me....

[The idea of my book *On Purpose*] was to try and say, well if the universe is not just a mechanistic universe, is it a purposeful one? Is there some purpose beyond just my own individual purposes? Am I contributing to some ongoing purpose? And so, *On Purpose* was concerned with the role of this intangible thing called purpose, not just in my own life, but perhaps in the life of God also. Was there a purpose to the foundations of the universe? Try and work that one out. And so I have a lot about evolution in that book. Cosmic evolution, biological evolution, because I see that as a working out of a sort of a purpose. Not... it's an open-ended thing. I'm not suggesting that anybody knew where it was going, but in general terms....

Then the last one was called *Feelings* ♠ because ... the most important thing for me, is feelings. My feelings. It's not other things, it's feelings. I come back to feelings all the time. If I have no feelings then I'm zero. So, how do I interpret feelings? Not just my feelings but the feelings of other creatures on this planet. Who has feelings besides human beings? So I deal with that question, and come down to the conclusion, which I knew I had at the beginning, that it's a feeling universe. That it's a much more feeling universe than a substance, materialistic, sort of universe. And I end up with a rather controversial chapter which interestingly enough seems to appeal to more people than I thought it would, and that's called 'The Feelings of God'. Well, I've got to sort of excuse myself and say, how do I know about the feelings of God, but here's a proposition, you see. And people write and say, oh, you should write more about that. Perhaps I've said everything I can say about it....

Why are you a Christian?

“Oh, because I was brought up that way. If I’d been brought up in Thailand I’d be a Buddhist.”

Why are you a Christian?

Oh, because I was brought up that way. If I’d been brought up in Thailand I’d be a Buddhist. I mean, that’s the most direct answer. Then you can say, ‘Well why didn’t you reject it?’ Well I reject the form that I was brought up in, but I felt there were certain aspects of it which I wanted to retain which were valuable, so I went on searching for another interpretation of Christianity. And one of the things I’ve been interested in is confronting people with alternatives to the traditional interpretation....

You’ve said that one of the reasons why you had to keep religion in your life when you were young was not only because you needed to explain things that science couldn’t explain, but also because religion had delivered for you, it had delivered you from a burden of guilt when you understood forgiveness. What part does that notion of forgiveness play in your understanding of Christianity today?

Oh, I think it’s very important. In my work, in the department which I was working in, for example, I came to cross-purposes with somebody. Then it’s important not to continue being at cross-purpose but to find some way out, which might involve my expressing my sorrow that it’s happened to the extent which I’m responsible for, which I’ve done on occasion. And so that forgiveness opens up the possibility of new relationships, which is important I think....

You seem in your thought quite often to look at what other people would regard as a paradox, or as things that are oppositional, and say both are true? Like you have no difficulty with science and religion. And you accept that. Do you think that this is an essential part of the way you look at things and that you often see the two things that seem to be contradictory are in fact complementary?

I think I tend to the radical, in the sense that I question the accepted orthodoxy of almost everything, including science, certainly with religion. So that I’m way out in one sense.

Has this ever got you into trouble with your scientific colleagues?

Oh, yes. Yes. Because most of them belong to the establishment.

Did they tell you this? Being a radical in the conservative world of science, did that ever bring you criticism or even derision?

It certainly brought criticism, I think, yes, yes.

In what form?

Well, I used to think, for example, in the things like the Australian Academy of Science and so on, their pronouncements would be written in such a way that it would be a miracle to expect anyone to read them, yet they were supposed to influence the world. I would go for a much more radical thing. And the most radical thing I ever said, and they never forgave me for, was I said, a quotation from Whitehead actually, ‘It’s more important to be interesting than true.’ Now I didn’t say it’s important to be untrue, but don’t say that the truth is the only thing you’ve got to aim at. You must first of all be interesting and that’s terribly important if you’re going to try and influence anybody in a lecture or anything else. In these official bureaucratic things, that doesn’t seem to count to be

interesting. But it's very important. And they thought that was a very dreadful thing to say. Science is for truth, no matter if it's interesting or not. I think if it is true, it'll be interesting.

Your search for meaning and your desire to make sense of things, has that sometimes attracted comments from your colleagues?

Oh, yes. In the sense that I'm talking out of my field. And that is a very strong criticism and it comes from almost any profession you like. You can't talk about economics, you're an ecologist. You can't talk theology because you haven't done any formal courses on theology. This sort of thing, yeah....

And when you share with your colleagues your desire to make sense of these things that can't easily be made sense of, with present biology at any rate, and you talk about feelings and you talk about meaning and purpose and these kinds of ideas, how do they react to that?

Well, the main reaction will be, 'If this is something on which we can't agree, why bother about it?' see. And, my difference is this, that I think there is an area of knowledge that you can put a line around and say, 'We can be pretty sure in that area.' And scientists mostly study within that area. And then I say, 'There are fuzzy edges and in these fuzzy edges there are very interesting ideas and things.' And I tend to be very interested now in the fuzzy edges and to try and find some clarity there. Not to be just confined to the thing of which we can be certain. I don't think certainty is the most important element in our lives. You don't have to be certain about everything.

Well, maybe the things that are now certain were ones with the fuzzy edges and perhaps.
...

That's right. Well, now maybe that is the case and it was people who were prepared to move out a little bit into the unknown area and think of other ideas. In fact, one thought that struck me very much [was] by a very famous chemist called Edward Doisy, who discovered Vitamin K, he said, 'Discovery in science consists of looking at the same thing, observing the same things but having thoughts that nobody else had ever had.' See, in other words, your boundary is going out beyond the — so I used to say to the students, 'Can you have some thoughts that nobody has ever had? See if you can. Now that's imagination. And discovery. And it's a bit fuzzy. See, nobody has ever had these thoughts. Try and get into that area. It's worth worrying about.'

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