Faith and Wisdom in Science

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[0:00] I see it's part of a trend in this group that we are becoming focused on book reviews more and more. And that may be good news or it may be bad news.

Some of us can't keep up with our reading in our own disciplines, and that's why we need help in having other people review the literature that they're supposed to be reading.
And I want to recommend this particular book by a man called Tom McLeish. It's a very dangerous project because Professor McLeish is actually coming to Vancouver on the 1st of November.
And if I misconstrue what he has said, you'll soon be able to find out. And this is a very unusual and, from my point of view, inspiring book, and I just hope I don't make it sound too esoteric.
It's really, I think, quite fundamental to our thinking about the relationship between faith, wisdom, and science, because he tries to develop a new way of looking at the relationship between theology and science.
[1:20] And I'll try and unwrap this for us. Before we do that, a word of prayer. Father, we thank you for bringing us together.

We thank you for the opportunity to share the insights of other Christians. We ask for your help and guidance.
And help us to say those things that you would have us say, and help us to forget those things that are just our own particular perspective.
In Jesus' name. Amen. So, Professor MacLeish is a professor of physics and materials science.
And he's also the pro-vice chancellor for research at the highly ranked University of Durham in the UK. He's a Christian. He has recently given a series of lectures at the Faraday Institute at Cambridge, which is, as you probably know, one of the frontline places in which people talk about the relationship between science and faith.
[2:38] My perspective here is that this book is a new genre of writing about the relation between science and faith. On my bookshelf, I have a raft of books on theology and science.

This book is the first of which I'm aware that attempts a theology of science. And he spends a little time talking about the difference between theology and science as compared to the theology of science.
And I'll try to explain that and unwrap it, perhaps, in the question and answer session. I find it an exciting book in so many ways, because it's marked by great originality.
For some of us, his claim that the scope of science and theology is identical will be too much to take.
And I'm sure there'll be discussion about that claim. But he tries to demonstrate to us a similar seriousness in his approach to scripture as his approach to science.
[3:56] The argument that he makes is well grounded in biblical exegesis and in the experience of lab science.

And also in theoretical adventures that he has taken into account. He proceeds in this book by describing the excitement, the love, and the passion that's involved in doing science.
And he also notes the mistakes that he's made in doing science, which is of interest. He's made major contributions to the understanding of the behavior of different materials.
And describes his successes and failures in his laboratory. So the sorts of questions that he asks are, why do materials flow? Or recoil?
Or change color? And most of us, I guess, are familiar with the problem in relation to water. Water being one of the strangest things on the face of the planet.
[5:08] Usually it flows easily. Filling glasses, jugs, streams, and oceans. But you cool it, and it solidifies into icebergs.

Snow and ice sheets. And you put on the kettle, and it transforms into steam. And all the time it remains H2O. How is it that matter can change its form without changing its substance?
There is a desire among those who are serious scientists and Christians to peer beneath the surface of this matter.
Questions, imagination, structure, numbers, and perhaps most importantly, faith, are all required in this scientific process.
Indeed, he goes to some length to describe the effort, the pain, and the love, which are central emotions, in the pursuit of truth about anything.
[6:21] Now the first point that should be made is that this is not an attempt to teach science, but is an attempt to look at a cultural history of science.

A very simple form. People like some of our colleagues in this room will find this far too elementary, but maybe some of us have not thought about the cultural history of science.
If you had been a student signing up for a science course in 1810, you would unfortunately have been turned away, because there was no such course in the university.
Natural philosophy was your program, and the discussion that Tom McLeish initiates is, what is the difference between our understanding of the word science as compared with the word, or the words natural philosophy.
The word science comes from the Latin, as, again, others in the audience are better equipped to say than I, comes from the word scientia, which means knowledge, and which is final.
[7:39] The words natural philosophy mean love of learning about natural things.

Love of learning about natural things implies a journey, so that science, in that sense, is a journey.
And what is implied by science as compared to natural philosophy leads to a considerable discussion in the book, because we are used to thinking about science as providing all the answers.
When, in fact, as a practicing scientist, Professor McLeish tells us that rarely do we provide answers, that we provide steps on the way towards an understanding of truth.
So the difference that is suggested between natural philosophy in the 18th and early 19th centuries, and science as we discuss it today, is that of the difference between a journey and a statement about the facts and the answers to everyone's questions.
The implications are huge, as you well imagine. If, indeed, our contemporary science is the answer to all the world's problems, then it's very different from admitting that we are still on the way, and that very few of the important questions have yet been solved.
[9:28] In order to pursue this point, and to unwrap this piece of paper, we need to look at the relationship between science and theology.

And, very simply, Professor McLeish suggests that there are four main ways of relating science and theology, three of which are patently wrong, and his way obviously is right.
But I'll try to explain that. The first one is that science and theology are competitors, and one or the other has to win.
And this, of course, is the illusion behind Mr. Dawkins' outspoken atheist position, in which it's clear, from his point of view, that science is the winner.
There's nothing really tangible or valuable that we need in the 21st century in theology. But interestingly enough, in this same bag of seeing science and theology as competitors, we find the fundamentalists, Whitcomb and Morris, who also see the game as a game of competition between theology and science, and for them, theology wins with no valuable contribution from science.
[11:06] Interesting, in fact, that those two people, one is a civil engineer, and the other is a scientist, but they have come to the conclusion that there is no relationship between theology and science.

So two people at opposite ends of a spectrum find themselves in a similar bag in looking at the relationship between science and theology. A second one, which has been well exemplified by Stephen Jay Gould, is one about non-overlapping magisteria.
Sounds like a mouthful. Simply means that they are saying that theology and science simply don't overlap. And so Stephen Jay Gould, who was a Jewish scientist, very influential in the history of evolutionary theory, he continues as a dedicated religious person, but says there is absolutely no connection between science and theology.
A third and another wrong position, according to Professor McLeish, is that which is held by Sir John Polkinghorne.

Now this comes as a shock to many of us who have found Sir John Polkinghorne's insights about faith and science are some of the most important that we have in our bookshelves.
[12:49] And what's wrong with Dr. Polkinghorne, he says, is that different worlds of theology and science can be approached using similar methodologies.

That the essence of Hawkinghorne's statement about science and its importance is that these are similar worlds, sorry, these are contrasting worlds which can be approached by using similar methodologies.
And this is the gist of many of John Polkinghorne's books, which, again, seems to me, have been the most important insights in this whole debate over the last 20, 30 years.
And he says the difference quite simply is that each of these three approaches, one which is that there's a competition between theology and science, science, or that there's no overlap between theology and science, or that they are essentially different worlds that can be approached using the same methodologies.
The difference is that they're all talking about science and theology, and not about the theology of science. And where does he turn to see the exemplification of the theology of science?
[14:17] Well, he turns to scripture. And primarily, he uses the book of Job as the textbook for the theology of science. But before I get to that, I should indicate that he goes into some interesting discussion, starting with Proverbs 8, the nature of wisdom, moving through Psalm 33, Psalm 104, Jeremiah 4, 10, and 51.

Anyone looking for some extra reading? The later Isaiah, 28, 40, and 45. Early Isaiah, chapter 11. Hosea, chapter 2. Laterally, Genesis 1 and 2.
Then he goes through Romans 1 and 8. 1 Corinthians 15. John's Gospel, chapters 1 and 2. and the revelation of St. John the Divine, about which you are not all the reigning experts.
But what I'm wanting to say is not to elaborate on that, but just to say that there's a serious investigation into the scriptural understanding of science.
But most of all, he works with the book of Job, which he regards as the template for a theology of science. Obviously, I can't do justice to his detailed expositions, but I can simply remind us of the story of Job and how this fits into his view on the relationship between faith, wisdom, and science.
[16:04] things like us. So, the well, you're all familiar with, how many of you are familiar with the book of Job? Oh, everyone.

Well, you will be delighted to hear it again. What have I done to deserve suffering is the central theme of Job.
The text comprises monologues addressed between Job, his friends, and eventually God himself.
The structure of the book involves an introductory prologue in which God and Satan are in conversation.
God points out the faithfulness of his servant Job, and the subsequent discourses take place with the afflicted Job sitting on an ash heap.
That was a wonderful image. Sitting on an ash heap. And sitting silently, despised and rejected by society.
[17:13] Job's friends sit with him in silence, for seven days, and then begin to speak. The first cycle of speeches and replies goes from chapter 4 to 14.

Job and Job's three initial friends, Eliphaz, Bildad, and Zophar, as you recall. Each cycle starts with a complaint from Job, followed by a speech from each friend in turn, each one answered by Job. and it soon becomes apparent that Job is not demanding an end to his suffering, but he is torn apart by the twisted interpretation and imputed meanings of his sufferings.
His friends claim that the world embeds a law of retribution, in that the evil are punished and the good are rewarded. And they deduce from this that Job deserves his present state on an ash heap.
Job, knowing his innocence, denies their accusations, and his closing thrust wraps up the argument by invoking the properties of deep time eroding through the ages, the apparently permanent structures of the earth.
[18:33] geoscientists like myself claim that deep time was not understood in our history until the 17th century.

And even then it took a long time to nail it. But here in Job we have a statement yet as a mountain slips away, this is just grist to my mill of course, as a mountain slips away and erodes and a cliff is dislodged from its place, as water wears away stone and torrents scour the soil from the land, so

you destroy man's hope.
I'm not recommending this particular accusation against Job, but I'm saying it's remarkable insight into the science which we think we discovered recently.
Job concludes from this first cycle of discussion that there's indeed a moral law woven into the physical fabric of the world.
However, it is not the well-ordered law of just rewards, he says, but a chaotic law of decay and purposelessness. That's the end of that first round of discussion.
[19:57] In the second cycle of the discussion, Job's second complaint is that there's no justice in God's world at all. He claims that any correction that he might have merited from ignorance or oversight is insignificant compared with the punishment inflicted on him.

Job, on his ash heap, can see only injustice everywhere. Now, at this point, his friends start to lose patience with him, and the end of that second cycle sees confrontation in a more explicit way between friends and Job.
The third cycle, which goes from chapter 21 to 31, Job's complaint moves from the problem of pain to a legal dispute and the friends' accusations aimed at Job become clear and open.
And Job now accuses God of failing to bring the wicked to justice when they steal the land of the defenseless. The third cycle reaches its high point in chapter 28, the so-called hymn to wisdom.
But where is wisdom to be found? Now, where is the place of understanding? Humans do not know the way to it. It is not found in the land of the living. The ocean deep says, it is not in me, and the sea says, not with me.
[21:20] This is in the chapter 28, as you may recall. But God understands the way to it. It is he who knows its place. Behold, wisdom is to fear the Lord.

Understanding is to shun evil. It follows then the introduction of a new friend of Job, Mr. Elihu, and there's a final speech by Job on the creation song of Elihu, which are again, questions that need to be answered, and which are addressed in God's final summing up.
Elihu criticizes both Job and all the other friends for being so narrow-minded. He hints that Job's suffering is but a triviality before the greater purposes of God, and suggests that suffering can always be a way of warning us about the importance of God's law.
But in his final discussion, in Elihu's final comment, he really ends up with the same sort of anthropocentric justice, which says that you get punished for every sin in proportion, which of course leads to the great problem of what sort of a book is Job, and what kind of a statement about science can this be.
Job opens his heart in chapter 31 in deep reflection and admits his temptation at one point to worship the sun and the moon and the stars in the desperate situation that he's in.
[23:11] But at this point, all the characters fall silent. without any resolution in sight. Job's pain and unsatisfied desire for vindication has led him to a deep thirst for wisdom and to look for it in the inhuman otherness of matter.

The five actors, Job and his four friends, all hint at the centrality of the created physical world over any claim by humanity to have a pivotal place within it.
creation, they say, seems to project a balance between order and chaos. And this storyline locates wisdom within the knowledge of nature. It inspires bold ideas such as a covenant between humanity and stones.
It thinks through the provenance of rain clouds. It observes the structure of mountains from below and wonders at the weightless suspension of the earth itself. But while it underlies many of the comments of all five human participants in the discussion, it is not expressed coherently by any one person.
And so the Lord's answer, chapter 38 to 42, becomes absolutely critical. Now the interesting thing here is that many commentators say that the Lord's answer is itself an evasion of all the issues that have been raised.
[24:33] when in effect it is important to see how direct an answer the Lord's answer actually is. And it starts with a statement and Yahweh answered Job from the tempest and said, who is this who obscures the design by words without knowledge?

Gird up your loins like a man, I will question you and you shall answer me. The Lord's answer, begins to fill out and extend the narrative hinted at by the five actors.

To demand an answer to the question, where is wisdom, while keeping the whole of physical creation at bay, is fruitless. Let me repeat that.
To demand an answer to the question, where is wisdom, while keeping the whole of physical creation at bay, is fruitless. the Lord plucks up Job from his ash heap, and takes him and us on a whirlwind tour of creation, from its beginning to the present, from the depths to the heights, and from its grandest displays into its inner workings.
several of the personal comments of Tom McLeish, about his introducing Job to his colleagues, confirms for him that the spirit of science in the present environment is reflected very well in the words of the Lord from chapter 38 onwards.
[26:18] He's found more interest in people looking into faith, and looking into the scriptures, by giving them copies of chapters 38 to 42 of Job, than from any other particular passage in the Bible.

Which is interesting in itself, that the sort of atmosphere of science that is conveyed by the Lord's answer, which emphasizes unresolved questions.
It emphasizes the necessity for us to recognize that we are quite small. Again, I say that we recognize that we are quite small and don't understand very much.
And we need to develop the spirit of questioning understanding, rather than the acceptance of answers that do not really address the question.
wisdom. To demand an answer to the question, where is wisdom while keeping the whole of physical creation at bay, is a deliberate statement of the way in which MacLeod suggests that Job gives us a direction towards the importance of scientific questioning.
[27:44] understanding. The Lord's answer has five main points to it. But the most relevant to this particular argument that he develops is the fundamental significance of the physical structure and workings of the created order.

A human relationship with creation is spoken of as a covenant, similar to that which is revealed to Noah in Genesis chapter 6 to 8. So this serious engagement with the material universe leads us to a summary of what the author is getting at.
How does this final four chapters of Job introduce us to a theology of science? His argument is that theology deals with everything in the light of God.
Everything that is to say that leads to truth, not just about people, not just about our personal and individual salvation and redemption, but it leads us to questions about the nature of God's creation, some of which are in the process of being resolved and some of which will never be resolved in our lifetime.
The emphasis is that both science and theology are based on faith. They are both more about imagination and creative questions than about method logic and providing answers.
[29:43] They both involve pain and love as their central emotions. And this may be a thought that hasn't occurred to those of us who are not directly involved in science, but that there is this emotional involvement in science taking seriously the nature of the materials which God has created.

perhaps the most revelatory part of his thinking is his view that order and chaos are equally part of God's world and his refusal to accept the simplistic argument that God's existence can be proved from the fine-tuning of the universe.
Now I know that many creationists will be upset by that statement, but he says that if we review not just chapter 38 and 42 of Job, that all the comments that are made about the created order in the earlier chapters of Job also reflect this ambiguity with which we struggle as just ordinary human beings.
We've frequently exchanged thoughts on this in this group. For example, the wastefulness of extinctions in the geological column.
How does that fit in with God's orderliness and sense of order? What about the difficulty of explaining storms, tempests, and earthquakes?
[31:35] These are real. These are part of God's creation. Can we accommodate the ambiguity between the chaos that obviously exists?

I mean, you're going to have to remember the misprediction of the storms of the last few weeks, especially if we're still waiting for number three. There is chaos in our scientific understanding of what the weather is doing, even though we've made huge progress and so on, but the questions remain.

All the questions that are posed and answered by God in chapters 30 to 42 are still questions that defy solution in a totally secular context.
He then goes on to say, of course, in mainstream science, chaos theory is one of the more important developments in our understanding.
And you may think this is shocking for scientists to be caught up in chaos theory. Those of you who know about it will not find it so shocking, but it means that all the simplistic solutions of Newton's laws and even Einstein's perceptions have to be modified in the light of our understanding of uncertainty and chaos in the real world.
[33:10] But more significantly, chaos theory in a strictly scientific context, which talks about chaos as being predictable, as being part of the makeup of the reality that we live in.

So the chaos theory has been found to be helpful in dealing with aggregate phenomena in the universe, such as, indeed, the question of storms and prediction of storms of various kinds.
The real point is that he is saying, that the Lord is saying, take matter seriously. And I know that tendency in our society is to take matter too seriously, as though it does not have any relationship to God.
But really, the fundamental point that God is making in Job 38-42 is that all of matter matters. And we cannot...
Sir? Go back closer to the mic. Oh, sorry. Well, I thought maybe my more heretical statement should be made to the side. Thank you. So, one of, I think, the most interesting challenges that Tom McLeish sends out is that we must grapple with the chaos and disorderliness of much of creation and incorporate this into our theology.
[34:52] theology. So, he is saying our theological education needs a significant improvement.

Actually, he says it needs a shake-up. At the same time, science needs a radical shake-up, having forgotten where the source of wisdom is.
so there's a challenge that is developed in science. I don't have time to deal with it here, but the challenge is how to make theological education and scientific education more balanced with the view that the theology of science starts with the aim of understanding in the light of God, and that science recognizes, or should recognize, the fact that there is a greater wisdom beyond the textbook of physics or of any other science.
So, you might say that, if it's not too heretical a point, that our theologians should read more science and our scientists should read more theology.
as long as, of course, they understand that there is a notable missing person in the Hawkins atheistic perception of the world.
[36:33] Seeking wisdom about natural things, natural philosophy, remains an incomplete journey towards the truth. And, what is original about Tom MacLeish's vision, and his exegesis of the Bible, is that he sees the love of wisdom about natural things as equivalent to theology in so many ways.

Wow! What a difference to the science as knowledge and of final facts as we know it today.
knowledge implies certainty, whereas the love of wisdom about natural things implies a journey towards a truth that requires effort, pain, and love in its pursuit.
truth. And this is also the concluding point of Mr. MacLeish's extraordinary book, Faith and Wisdom in Science. And that indeed is the conclusion, but I want to say a few more things in order to clarify where this leaves us.
I think that, as I reflect on this book, that it makes a lot of sense in reading through chapters 38 to 42, and then checking through the way in which the created order is dealt with in all these other parts of the scripture.
So in a sense one needs really to have a Bible study series on all these references to the nature of the created order. you know, we're familiar with the fact of saying all these naughty scientists, they just don't take God seriously, and the converse of that is these darn theologians, they don't take science seriously.
[38:43] And that's sort of, in a sense, the structure of our educational system. So I stand up in front of a class at UBC, and if I make comments about my faith in God, this is not really kosher.

At least it's not supposed to color my understanding of the evolution of the landscape. But you see, the critique applies in both directions.
And I think we have to reflect on this. I'm not presenting this as my personal position. Sorry, I don't mean to just do that as a cop-out.

I'm simply saying that these are thoughts that Tom McLeish has put forward, but the challenge of it, I think, is real. That we need to take more seriously the fact that science under God is absolutely important, as described in Job.
And in the same sense, of course, we need to have a sharing between Christians in science and Christians in theology, and thank God this is happening.
[40:15] Regent has courses now on the relationship between science and faith, history of science, alongside the history of theology.

There are many institutions which do present such material. things are not one of them, in my view, because we are essentially a secular institution and have not yet woken up to the reality of this phenomenon.
But many institutions are taking it seriously, and yet this seems to me to be a long way to go, and that's really what Tom McLeish is saying, and I hope this is right, we will have the opportunity to check it out when it comes in the first week of November, which incidentally will be first of all speaking at Regent on November the first, then speaking at UBC on November the second, speaking at Simon Fraser on November the third, and speaking at Trinity Western on November the fourth, all of which will be related.
Only one of those lectures is called Faith and Wisdom in Science, so he's obviously taking apart bits and pieces of his argument and giving illustrations of how it could affect the theology of science. So I'm open to discussion and believe that this is an interesting book and hope it will be helpful to some of you as I feel it has been to me.
[41:54] So please, if you'd like to enter the discussion. So when we say we believe that God is the creator and sustainer of the universe, if I've understood correctly, sustaining the universe minute, second by second is just as much of a miracle as creation.

And in some ways, as Christians, I've heard scientists say both creation and then evolution are perfectly acceptable within our theology.
Would you say that? Absolutely. But, well, I speak for myself now, and I don't think Michael necessarily says it that way, but I think it's a very good way of putting it, that everything in science, with the major exception of the missing role of God himself, is something which we need to take seriously.
It is part of God's creation. And it seems to me that we have questions which we need to ask, and we can't just repeat somebody else's answers.
We can repeat God's answers, which are to continue questioning, and to continue taking the material world seriously. evolution. And I think that's I can see, I mean, the whole question of evolution is of course a huge one on which we could have a separate discussion, question, but it's a very interesting question because it's not really been a major problem in Europe so much as it has in the southern states.
[44:02] And of course that's a very key issue at the moment. Javi. I understand that I don't know if he touches on this book.

In the 18th century, as I recall, David Hume, the great atheist, Scottish Enlightenment guy, would listen to Christians and I think he respected Christian arguers.
He'd say, yes, if you convince me that the world's order tells me there's a greater God, he famously said, well, the world's disorder shows me that he's at least incompetent.
So is Mr. McLeish saying that there's just a broader horizon where the world's chaos, somehow we should be open to its mystery as informing us about God.
What does David Hume do with that? David Hume loses the battle. Basically, it seems to me that that's the seriousness of chaos, which ultimately describes the way in which millions and millions of molecules interact in ways that are unpredictable to human beings, can only be predicted in a gross sense, and remind us of the fact that we are really very far short of wisdom.
[45:37] wisdom. And so if we don't accept the first part, the beginning of wisdom, is the love of God and the love of his world, then we're out to lunch.

That's an interesting example. John? You know when you mentioned at UBC, you say something about God, I'm a little bit like that too, because when I talk to my next door neighbour about, instead of stuff I do at the church, I say volunteer worker.
Just this morning I talked to someone, I'm up to Oakridge, I don't say a church, but it's almost like it's something politically incorrect or offensive, and I don't know why, I know that it might offend

people, so that's why I say volunteer worker or Oakridge, but what do they say to you at UBC, that it's politically incorrect if you talk about God?
Well they wouldn't make as explicit a statement as that, but they would shrug their shoulders and wonder about my sanity, but this they do anyway.
They might think a religious fanatic. Fanatic, yeah. This really went out sometime as the completely slack way in which the secular culture just ignores if you like the history and tradition and cultural history of our society and civilization.
[47:08] Sheila. I find in talking to people of science, this might be more true of applied science, I'm not sure, I don't have the right kind of language, and neither do they.

You know, we're like two parallel lines that don't intersect. Their world is so rooted in concreteness that they will never understand some of the mystical or mysterious things that we accept as a part of faith that cannot be explained in a test tube, you know.
We don't have a common language, and I don't know, is there a way of getting around that handicap? Well, I think this speaks exactly to the point that he has tried giving his colleagues John 3.16, for example, and it doesn't speak to them.
He's given them Job chapter 38 to 42, and they have engaged in conversation. And he doesn't say that they have necessarily become Christians on the spot, but he says the conversation is open, and he has a remarkable reputation in that respect, of the respect of his colleagues, and I think there are also local examples where, I mean, David Lay is not a scientist in that sense, but he is an extremely influential colleague, and he speaks about the role of religion in Vancouver, the role of the way in which religion influences the structure of the city, and the way in which the whole kind of importance of social ecology, he calls it.
So he has a way of communicating, which takes the real world of matter seriously. But for goodness sakes, I mean, isn't water a miracle? I mean, what?
[49:15] I know it can be explained at a very broad level, but it's absolutely ridiculous the way it behaves. Absolutely wonderful is really the word.

If it didn't behave that way, lakes would freeze from the bottom up. So I wish that because of the unusual properties of water that expands with temperature.
So I mean, the miracles that are actually going on around us are much more elaborate than that in this whole area of material science in the sense that, you know, materials that will stick and materials that will resist, development of materials that will actually work in supersonic flight, for example.
I mean, all these research areas that are not answering the question that God asks, but they're involved in questioning in the same way as God says we should be questioning.
So that's the kind of level of application, I think. Yes, please. So your opening comment that you couldn't take a science course in 18, you couldn't take a course at a university in 1810 on science.
[50:43] That was called science, yeah. Okay. Suggests that prior to the modern era of scientism, the relationship between science and theology was friendly and not competitive or combative, so that the way people looked at the physical realm was sympathetic, we might say, to God being in the world and God being over the world, which suggests to me that it is, I guess, that the worldview, the way we look at the world, including science and God, shapes how we understand science?

That's what the theology of science should do, according to Niklish. I think he's saying that the perspective that is projected by Job is precisely that, and then he links that to the way in which the created order is spoken about in the rest of scripture as well.
He does major on Job, and so I think if you're wanting to read it as a Bible study, that's one way of reading this book, but another reason for reading it would be to see the inside workings of a scientist and how both success and failure in science involves the emotions and the passion and the love, which we often think is not related to science at all.
James, you've been... Yes, the rules are ladies first in. yourself. I just have a comment to add. Your lecture reminds me of a class I took when I was 14. Could you speak to that? at the age of 14 years in a physics class, and the teacher was told us about Newton's laws, and one of his laws is about when the object will keep moving when there's no stop.
[52:50] So, and the teacher mentioned about somebody asked Newton at that time who pushed that object in the first place, and Newton's answer was, it's God.

So, I didn't know my physics teacher's background, why he mentioned that, it's just, his teaching was really staying with me all these years.
So, and your lectures the second time brought about the religion and the faith and the science. So, yeah, that's what I thought. Well, that's a great example. Yeah, thank you very much. I think that, well, what Elizabeth was saying is that my lecture was actually available when she was 14.
James? I know that Newton used this language, but I do wonder if he's saying, you know, that the philosophy of natural law and science, while they're different from one another, might he be saying that, or proposing that he has something of a sacramental view of creation and matter, that through it, we actually, yeah, through it we see who God is, or something about God is revealed through the natural order and disorder of things.
I know he's not using that language, but I don't know, what do you think about that? Yeah, that's a very important comment, I also should have commented when Harvey said mystery, these are words that the scientist in general doesn't respond to, but it's precisely that, a deeper level of understanding, which is implied, but he doesn't use terms like mystery or sacramental, and I guess that just constitutes one of the barriers that has to be broken down.
[54:51] Not easy. Yes, please. I want to ask on just the emotions, because this is new to me, from a science perspective, the pain and the love you've mentioned a couple of times, in science, does this resonate with your experience over your career?

Very much so. I gave a strange lecture the other day, which I was trying to indicate where my love of landscape comes from, and it's been an innate thing since my teenage years, and I think that just the sense of the wonder and the magnificence of God's creation, that's spoken about in different languages, spoken about, can be spoken about in secular terms without any sense of mystery.
It can be experienced as a mystery, and it can be seen as something that we don't understand, and we'll continue to look for God in his creation, and it is therefore still a journey, and I think perhaps the most important thing here is to recognize that we are still on a journey in many respects, and I'm not suggesting that everything is unknown, I'm suggesting that there's a lot to be.
Yes, Christine? What does Dr.
McLeish have to say about causation versus the scientific explanation? Example, Mount St.
[56:41] Helens blew up in 1980, probably one of the most important physical or natural events in our lives in this part of the world.

Now, you can explain that with the entire science of volcanology and how volcanoes work and a whole raft of geology and so on and so forth, but is there a role in terms of God having some kind of decision that it would happen then on that day in 1980?
Is it God's will? Why this interesting prediction? Why this interesting prediction? Why this interesting prediction? I mean, it seems to me that there's not a soul that predicted the event of the blowing up of mouths and homes.
So, it shows that we are but creatures under God. And, I think, in that sense, it's been a shock to people in Cascadia, right throughout the region, and it just emphasizes how small we are.
That's my thought on it. Yeah, John, you've had one. I'll come back to you, if I may. Please, Ed. I had a colleague who wrote a book in his retirement with a philosopher, and I can't remember the title, but he sent me a copy.
[58:23] But in the title, it had God and Science, and he, or Physics and Science, because he was a physicist. Physics and God, physics and God.

I had a colleague who saw me reading this book, and he said, you know, those two words shouldn't be in the same title. He was a physicist, you may know of that.
Well, that's precisely the competition. So, MacLeish, in that context, would say that we should be talking about the God of Science, which I mean he might not accept, but that's the kind of reality that we are concerned about as Christians, it seems to me, that we want to dig deeper and to get a better understanding of God's wisdom, knowing that we will never be God, whereas some scientists believe that they are already God, or will indeed become God, as a result.
Yes, Christian? So, the side question, I wonder about the history of how natural philosophy turned into science, which is, to my mind, the core of the problem.
Yeah. Well, you are very suspicious of the Cambridge Mafia, and it was a man called William Hure who actually introduced the term in about 1820 or thereabouts, and it was taken up quite quickly because of the emergence of the Royal Society and the agreement that the Royal Society really was about science.

[60:17] people were now that just explains the Cambridge Mafia part of it. If Martin Barlow had been here, we could have accused him because it's one of his fellow college mates, Martin having been at that college 120 years later.

John, you've waited for time. Since you said you like landscape, there's a Channel 70 APTN, it's a native channel, it's called Samaquan Water Stories, and it's really, really nice filmed.
I enjoy landscapes too, you might enjoy, because I like, I've gone for walks through Stanley Park and Gabriel, you might like that on Channel 70.
Samaquan Water Stories, really, really nice landscape. Appreciate the recommendation. Oh, Harvey again. The poets know everything. I share a line from Cooper, the great Christian poet, all that we behold is miracle, but be held so dully is miracle in vain.
That's the whole book. Good. They know everything, the poets. Yeah, yeah. It's great to go. Thank you. Bill. Does you push Sam about the creeds?
[61:37] No. No. Not that I recall. No. So his saying that theologians should take more seriously the chaos in creation, that it doesn't lead them in a sort of process theology direction, which would be unfortunate, but I'm just curious.

Yeah. No, he's still very provisional. Okay. I think that's an important point. I mean, in terms of the relationship between all this discussion and catechesis is a difference of objective altogether, I think.
Good. Yeah. Or a certainly different step in our understanding of God. Yes, please. I'm just wondering how he proposes to get to where he wants to go on this theology of science.
science. Since the whole academy right now, both in the secular university and the seminary, is geared towards intensive specialization, in my own discourse with theologians, I see that a lot of them sort of shy away from any sort of engagement in the physical science because they don't have the background for it.
Whereas, that same criticism can be also applied to the secular scientist who doesn't see the importance of it, pretty much different field, different specialization, who cares?
[63:23] So, how does the author propose to sort of get to where he's going? And with that, do you have any insights on how to sort of more broach this avenue?

Well, first question, he does talk about it. He says it's a long haul, he says we have been turned upside down in our whole thinking world, and that there's a necessity to have mutual respect as between theologians and scientists, this is a starting point, so that at this point very often these are isolations and until they actually communicate, people like McGrath are remarkable examples of people who have done that communicating.
but what I don't pretend to know the answer, but I do think that that's one very good way forward, and I guess I've always had this contradiction in my own scientific work, the sense of the fact that I'm writing to one audience here and another audience there, and the two don't seem to fit, and that's a challenge.
I've heard of professional organizations, I think it's the Canadian Christian Scientific Association, and there's the American Counterpart, American Christian Scientific Association, it's a body of people who are both scientists and Christians, and or one or the other not necessarily combined, they meet local chapters, so that's encouraging that there's ongoing dialogue between those two fields of theology and science, so I've got friends in Ontario who are part of that.
The visit of Professor McLeish, is in part funded by the Christian Science Association, not Christian Scientists, but Christian Scientists.
[65:49] Is that future responded by that one? I think a good starting point for that dialogue, and for those of us here, because it does kind of, the whole issue is how do you have your faith while living in an age where science is doing all this amazing stuff, but if you look at the number of scientists who are Christians, scientists tend to like to ignore that, the whole discoveries of DNA.

Francis Collins? He's a Christian because he has the entire picture, and one thing that I, my field is bioethics, so one of the things that's being focused on now is we're getting back to Thomas Aquinas' natural law, where there's this idea there's a God.
In creation, we can understand parts of him, but there's also, along with the natural law, there's divine revelation, because without that revelation, we can't understand fully the natural law, and that's some of what I heard you said the author was expressing, that there are limitations to science.

The scientists don't want to believe there's limitations. Well, some scientists don't. Some, but, okay, the ones I do. But if you engage in these dialogues, you can say that, that, yes, we believe in science, because that's a media thing that Christians don't.
You said, I forget which point, but that was one of the three, you know, that they're contradictory. So you can engage in the dialogue by saying it's not contradictory.
[67:35] We do believe in science. We don't believe in false data. But you look at all these amazing scientists who are Christians who have made phenomenal progress in their field because they're scientists, because they have this full understanding, and that faith can contribute.

Then, as some people have said, you start getting people in the sciences listening because they do have a love for learning. Yeah, this is a helpful point, and it leads to my last comment, I guess, that I see on the website of the new president of UBC, where it says, favorite book, that's Collins on the Christian view of science.
And so this is quite an interesting thing itself. You look at the website for President Ono, and that's his favorite book.
So, I mean, it's certainly, there is an isolation of the two parties that is the dominant state of our world, but then there is also, thank God, a very strong area of interaction between thinking people of all kinds.
Well, I just want to take this time to, I guess you have to draw the close, but to say thank you so much. What an engaging topic, and what an important discussion, and thank you for starting us on that journey.