

Discussion Guide

God in Cosmic Perspective: Quantum Mystery and Infinite Personality

From the author:

One of my most interesting college courses was *Musical Acoustics*. The class was an unusual mix of students majoring in either science or music. When the professor talked about sine waves and wave interference patterns, the eyes of the music majors glazed over. When he talked about the distinctive overtones of a trombone, I wondered, "Why did I never know that?"

Some of the members of your group may be more familiar with science and mathematics, and some may be more familiar with Christian theology. Some will be interested in philosophical implications, and some will relate more personally to quotations and stories. In your conversations around the book, you can learn from each other.

Although my Christian perspective is obvious, I have tried to be sensitive to readers who do not share my commitment to the historic Christian faith. I hope you will feel free to share both your doubts and your faith in your group, in a spirit of honesty and respect.

Introduction

1. How do the quotes from Einstein and Feynman challenge your assumptions about science?
2. In Feynman's quote on page 2, substitute "religion" for "science." How does this compare with your thoughts on faith and imagination?
3. The Bohr atom is a scientific model. What are some other examples of scientific models? Why are scientific models of reality necessary and helpful?
4. On page 4, the author says, "Human comprehension [of God] is limited by the boundaries of the universe, the time span of human awareness, and the development of human minds." What other factors limit our comprehension of God and his mysteries?
5. In the anthropomorphic image of Exodus 33:18-23, what is the symbolism of God showing Moses his back, but not his face? What does this indicate to us about the limits of human comprehension?
6. On page 5, the author states, "...all people — even those who don't believe he exists — have mental images of God." How do people you know imagine God?
7. The author describes some common mental images of God on pages 5-6. How has your view of God been influenced in any of these ways?
8. Did Calvin view science as a friend or foe? How does his view of the relationship between science and Christian faith compare to attitudes you have encountered?
9. What are the benefits and limitations of precisely defining God in terms of his attributes, as the Westminster Catechism does?
10. What additional questions and thoughts does the introduction generate for you?

Chapter 1: Deep

1. Give additional examples of paradoxes and mysteries in human experience.
2. How can it be helpful to recognize the limitations of language, logic, and observation?
3. What was your reaction when you first encountered the double slit experiment? How does it change the way you think about the relationship between humans and the physical world?
4. In *Quantum Theory: A Very Short Introduction* (page 92), John Polkinghorne warns against “quantum hype” — misuse of quantum theory to support all kinds of strange ideas. He says, “Wave/particle duality is a highly instructive and instructive phenomenon, whose seemingly paradoxical character has been resolved for us by the insights of quantum field theory. It does not, however, afford us a license to indulge in embracing any pair of apparently contradictory notions that take our fancy.” How have you encountered misappropriation of quantum theory to support bizarre philosophical or religious ideas?
5. In quantum field theory, the *paradox* of wave/particle duality is resolved by accepting the *mystery* of quantum field theory. (See the quote from Feynman on page 13, “We cannot make the mystery go away by ‘explaining’ how it works.”) What are some biblical paradoxes that can only be resolved by accepting mysteries beyond full human comprehension?
6. On page 18, the author asks a series of questions, beginning with, “Does a non-localized quantum field with infinite degrees of freedom exist...” How does this challenge your thinking about physical reality and human capacity to comprehend it?
7. What do you think about the author’s comparison between light and God on page 19? Is your faith more focused on comprehending God or embracing what you know about God?

Chapter 2: Near

1. How would you describe the relationship between heaven and earth? What is your assessment of N.T. Wright's statement on page 21, "they overlap and interlock in a number of ways"?
2. On page 22, the author says, "This chapter explores a model of multi-dimensional space, not to define God's space, but as a helpful way to imagine how God relates to people in the space they recognize." What do you find helpful about the model, and what might be confusing?
3. In the section, "God in Unseen Proximity" (pages 25-27), which way of sensing God's nearness (if any) resonates with you?
4. Relating to, "God in the Intersections of Life" (pages 27-29): Would you be more likely to encounter God through mystical experience, inspiration in daily activities, or interaction with people who know God? How might your own personality influence your receptivity to encountering God?
5. The section, "God in the Connected Movements of History" (pages 30-32) assumes that history is as relevant as personal experience. Why is history sometimes discounted as a valid way to recognize God's activity in the world? How do you assess the validity of personal experience or historical records?
6. If you are a believer, what are some ways you recognize God in everyday life?
7. How has this chapter expanded your view of how God might interact with people?

Chapter 3: Always

1. Why do people usually imagine eternity as either an extended timeline or timelessness? Why is neither view entirely adequate?
2. How does Augustine's statement about time on page 35 anticipate Einstein's understanding of time in the theory of relativity? (See page 37.)
3. A model of multi-dimensional time is speculative, and it is unlikely to encapsulate the full reality of time from God's perspective. Yet how does the model help you imagine God's time, which you cannot fully comprehend?
4. Is the author's model of multi-dimensional "events" in God's time intersecting the timeline of the universe helpful for you? What questions or further insights do you have?
5. What are some ways people in our culture image the current state of a person who has died? How do you imagine it, and why?
6. Jesus and Paul (page 40) made paradoxical, almost contradictory, statements about the timeframe of God's judgment and the bodily resurrection of believers, and neither of them felt the need to resolve the paradox they created. Why do you think they left the paradox open?
7. Since the concept of the "intermediate state" is not specifically taught in the Bible, why did many theologians accept it? What value does the model have? What problems does it raise?
8. What do you think about the author's statements about the timing of the final judgment (pages 41-42)? How does his theory affect you personally, especially in relation to loved ones who have died?
9. Discuss the multi-dimensional time model the author presents for "God and Human History." How is it helpful, and what questions remain? Are the analogies of the grandfather and the father more helpful for you?

Chapter 4: Infinite

1. Do you think highly-intelligent animals imagine infinity?
2. This chapter introduces a mysterious concept of Reality, capitalized to include the universe, heaven, and maybe more. What is the likelihood that Reality might encompass more than the universe and heaven?
3. The relationships between numerical sets described on pages 50-51 might seem obvious, but they illustrate analogous relationships between the universe and God's Reality on page 51. How do the mathematical relationships sharpen your understanding of the relationship between the universe and God's Reality?
4. What are some philosophical implications of the different views of the relationship between the universe and Reality described on pages 52-53?
5. If life is transitory, why does life on earth matter? Compare the author's view on page 54 with other religious and philosophical motivations for caring for the earth, pursuing knowledge, and solving problems.
6. Review the practical implications of elevating God's transcendence over his immanence, or vice versa. How does the mathematical model of overlapping yet distinct sets eliminate the need to choose one over the other?
7. How does God's immanence and transcendence affects your conception of prayer?
8. By a coincidence of the English language, disjoint numerical sets are related through a "rule" of multiplication, and disjoint realms of heaven and earth are related through the kingly "rule" of God. How does this inform your understanding of the kingdom of God?
9. If you can, describe a time when you experienced "a slice of heaven."

Chapter 5: Personal

1. When someone describes God as “personal,” what mental image comes to mind?
2. Some of God’s actions in the Old Testament seem strange to us. Why do you think that is? Give examples of how God’s unchangeable character might be expressed differently today.
3. Why were gods, religious practices, and pagan lifestyles attractive options for people with a pre-scientific worldview?
4. Do you think the worldview of classical science makes faith more difficult?
5. On pages 67-68, the author embraces God’s role in evolutionary processes. How does this compare with what you have heard in the past?
6. Is conflict between Christianity and science unavoidable? What personal, political, or cultural factors might cause people to be either anti-science or anti-religion?
7. Why could Einstein not conceive of a personal God? (See pages 70-72.)
8. The author asserts, “The Higgs theory is accepted by most scientists, because it is *effective* in explaining the existence of mass, and because observations so far have *validated* the theory.” How does that challenge the concept of “seeing is believing”?
9. Using the analogy of the Higgs theory, the author asserts that theories of a personal God can be evaluated by *effectiveness* in explaining reality and *validation* in human experience? (See page 73.) Do you agree with that assessment?
10. **Purpose:** How do the sources of purpose identified by Einstein, Hawking, and Krauss fall apart without God? How might they fit into a life with God? (pages 75-80)
11. **Love:** Does a theory that God is the ultimate source of love contradict belief in evolutionary processes as the source of love — even unselfish love? How is God’s love revealed in the world today? How can we get in touch with the love of God?
12. **Enduring Self-Identity:** On page 87, the author summarizes (in bullet points) three views of enduring self-identity. What are the practical implications of each outcome after death?

13. The author says a theory of God's person-ality is validated by experience, not experiment. Why is personal experience not repeatable? Is communal experience as valid as personal experience?

Chapter 6: Infinitely Personal

1. What is your understanding about how God answers prayer? What questions do you have about prayer?
2. You might want to view the movie clip from *Bruce Almighty*. Do his futile efforts at playing God resonate with your questions about how God answers prayer?
3. Have you encountered some of the attitudes and practices of prayer described on pages 94-95?
4. Would you say that prayer is a mystery? Does that frustrate or encourage you?
5. On pages 95-96, the author asserts that God must obey the laws of nature. Are the laws of nature equivalent to the laws of science, as defined by humans? (Also see the quotation from C.S. Lewis on page 101.)
6. How does the author interpret Genesis 1? (See page 96, as well as page 63.) How does understanding God as the source of the laws of nature motivate scientific inquiry?
7. Does quantum uncertainty (pages 96-97) imply that "anything is possible" or "life is totally random"? What other misinterpretations of the principle have you encountered?
8. How does the author's assessment of Schrödinger's cat experiment (pages 98-99) compare with the implications some draw from it?
9. Summarize the author's progression from quantum uncertainty to impact on a human and global scale. How does he avoid the "quantum hype" of undermining the laws of nature due to quantum uncertainty.

10. How does Hawking's statement on page 99 create an opening for an infinitely personal God to operate freely within the laws of nature?
11. What three kinds of miracles does the author describe on page 101? Are all equally miraculous? Are most miracles clear and recognizable?
12. How would you define a miracle? How does your definition compare with the author's definition on page 104?
13. How does God's infinite person-ality transform the concept of determinism in science?
14. Give examples of events that might be described as "providential"?
15. How does the author define the relationship between providence and free will on page 107? Does providence allow people to choose between alternate histories? What implications might that have for the trajectory of your life?

Chapter 7: With Us

1. Which of the “hints of God” at the beginning of the chapter are most intriguing for you? How do they fall short in helping people know God?
2. If scientists prefer “generality,” is “particularity” less valid? When might particularity be necessary or advantageous?
3. Can history be validated scientifically? How must scientific methods be adapted to validate historical facts?
4. Why can the divine-human nature of Jesus not be defined in terms of human identity *in general*?
5. What is the role of creeds in describing the mystery of the divine-human nature of Christ? How helpful are they to you personally?
6. The author describes the mystery of the divine-human nature of Christ in terms of bidirectional “dynamic movements”: God taking human form, and a man being filled with God” (page 116). How is this helpful, and what are the limitations of this approach?
7. How does the divine-human nature of Christ inspire you? In what ways can ordinary people be like Christ, and in what ways is that not possible?
8. C.S. Lewis’ quote on page 124, “The Son of God became a man to enable men to become sons of God,” is bold and sometimes misconstrued. How do you understand it, in terms of Colossians 2:9-10?

Chapter 8: For Us

1. Do you believe the universe is designed for human life? Does that exclude other purposes?
2. How do you respond to “Discordant Notes” and “An Evolutionary Necessity” on pages 130-131?
3. How does viewing the history of humanity as a cosmic drama (page 132-134) affect the way you view your own life?
4. If God were merely “The Watchmaker,” would you agree with Hitchen’s quotation on page 137? How is God personally involved in the human drama, even in the Old Testament?
5. On pages 142-143, four bullet points describe ways in which Jesus experienced the results of human sin on the cross. Which is most meaningful to you?
6. Pages 145-148 describe three ways the resurrection of Jesus transformed the cosmic order. Why are each necessary in the world today? How are they personally relevant to you?
7. How does the chaos and distress of the world provide a backdrop for a meaningful life, in relationship with Christ?

Chapter 9: More

1. Which of the four views of the future of humanity (pages 152-155) have you encountered? What impact might accepting these views have on how people live?
2. “New Heaven and Earth” (pages 155-158) explores the relationship between life on this earth and life in a new creation. What is new or most helpful for you?
3. Read Isaiah 65:17-25. Can Isaiah’s vision be fulfilled on this earth? How does Revelation 21:1-4 and 22:1-5 envision the fulfillment of Isaiah’s vision?
4. Discuss in detail the implications of each of the sections on pages 158-162 for your own life.

Review and Reflection

Focusing on three chapters at a time (1-3, 4-6, and 7-9):

- What was new or intriguing to you?
- What was most helpful?
- What was confusing or difficult to accept?
- What unresolved questions do you have?

Has this book given you a desire to know God better? If so, how can you pursue that desire?