CHAPTER 1

Divine Agency

A Source of Unresolved Issues between Theology and Science

The relationship between theology and science is complex and intertwined. The relationship is not simply one that can be described one-dimensionally as conflict or equal and separate. At times historically they have been close to the point where at one has almost depended on the other. Significant issues such as the question of how best to understand and describe divine agency is interconnected with important assumptions and traditions of thought in science as well as in theology. Further there are additional connections among those assumptions and traditions that deserve careful thought and examination so that a clear and sound description of divine agency can be developed that can make sense to both theology and science. Ultimately, if God exists and is personal as Christians believe, then God must act both in the world and in humans. If there is to be a lasting conciliatory dialogue between theology and science, then establishing how it is that God acts is one particular question needing an adequate answer.

False Starts at Conciliatory Dialogue

Peter Bowler has identified three attempts at conciliatory dialogue between theology and science during the twentieth century. The first was in the century's early decades, which he discusses at length, the second was from

1945 to the 1960s with the third and present beginning in the century's last decade.[1] The first two attempts at conciliatory dialogue stalled because of unresolved underlying issues between the two disciplines. Bowler pessimistically observes that these "seem to reflect the fluctuating balance of power between secularizing and traditional forces with our society, and if this is so, we can surely learn something of value from the debates of earlier decades—if only the futility of expecting the underlying issues ever to be resolved."[2] Bowler is not optimistic that even in the present dialogue that resolution can be reached. Despair about the possibility of resolving such underlying issues increases pressure to abandon conciliatory attempts at finding a true meeting of the minds in dialogue. The temptation has been to seek revision, usually of the Christian faith rather than of science, or to relegate such dialogue to a place of little importance. Unsurprisingly perhaps, no such revision of science or theology has received broadly based support across the disciplines.

The temptation to minimize the importance of such dialogue is problematic, as Nicholas Lash has suggested: "Few of us would survive for long if we seriously supposed our deepest convictions to be illusory or false."[3] Lash proposes that the serious engagement with the dialogue between theology and science is a matter of truthfulness "integral not only to morality but to sanity."[4] For a Christian seriously engaging with the claims of science at "the practical level, this is a question about likely or appropriate forms of survival (if any) of religious belief and practice."[5] The process is not necessarily straightforward, as the sociologist Eileen Barker has pointed out: "[B]oth personalised and institutionalised theologies can encompass the most extraordinary ragbag of facts, opinions and beliefs which happily coexist, apparently quite oblivious of what to others are the most glaring inconsistencies."[6] On the other hand, "as we begin to contemplate the popular image of modern science a further bewildering assortment of contradictions, mysteries and paradoxes emerges. Science seeks out the immutable laws of the universe yet reveals the universal principles of indeterminacy and uncertainty."[7] A meeting of the minds in conciliatory dialogue between theology and science

1. Bowler, *Reconciling Science and Religion*, 4.
2. Ibid. 5.
3. Lash, "Theory Theology and Ideology," 209.
4. Ibid.
5. Ibid.
6. Barker, "Science as Theology—the Theological Functioning of Western Science," 263.
7. Ibid.

often naively presumes that serious dialogue has already occurred within the mind of the believer. It is presumed they have sought to take seriously the claims of their faith as well of those of the science they have come to know. Barker's summary of religious belief held by scientists suggests that it would be wise not to presume too much on such internal dialogue. Rather, Barker highlights that the variation and spread of belief is as broad in this group as it is among the wider community. Scientists engaging in theological debate hold opinions varying from fundamentalism to atheism.[8]

Irrespective of the complexities of the theology and science dialogue that will be outlined later, is it possible to resolve the underlying issues that continue to keep in contradiction, mystery, and paradox an individual's ragbag collection of facts, opinions, and beliefs? Is such resolution even possible? While this cannot be answered fully, this book suggests that one important underlying issue can be resolved: alleviating part of the pessimism to which Bowler refers. At the heart of the issue is the question of divine agency, how to describe God's direct action in the world and in humans. It is widely assumed, even when disputed, that such divine agency will somehow reflect God's perfect-being.

It will be argued that this assumption arose historically from an understanding of divine agency in the world developed with a conjunction of three factors in early modernity. The first factors date from the late medieval period and are relatively well documented. These are, firstly, how the divine perfections were understood in relation to nature and, secondly, how the notion of the two books of God's revelation (Scripture and nature) affects understanding of the natural world. This book argues for serious consideration of a third: the doctrine of inspiration and its encapsulated description of divine agency in humans. This description, it will be argued, came to be used more broadly to describe divine agency in nature. During this historical development in early modernity only one description of inspiration was in use—Augustine's *ekstasis* description.

This particular understanding of divine action assumes a particular arrangement to human anatomy. Firstly, that humanity has a spiritual component or soul and secondly that when God acts in a person this soul is stood to one side. The implication of the soul being stood aside in that the ensuing action is understood to be God's own action through the human. In "pure" inspiration it is God's rather than the human will at work. In as much as such action is purely God's own, such divine agency is understood to be perfect. This has two logical implications which color further discussion: firstly, that there exists a metaphysical component to human anatomy, the

8. Ibid., 267–68.

soul, which becomes an essential element to anthropology; and secondly, that divine action in this manner overcomes the limitations of human finitude and is able to achieve perfection. These initially offered a useful way to describe how divine action could be perfectly reflected in an imperfect world. They act to complement early modern understanding of the divine perfections and the notion of the two books. Such a mechanism of divine agency provided a useful tool for describing the supposed ideal nature of God's actions in creation as natural philosophy developed. The supposition that nature, if read using the correct methods, could reveal more of the purposes and grandeur of God spurred to the disciplined and thorough study of nature.[9] In particular Augustinian anatomy of the soul and *ekstasis* became demonstrably foundational for Newton's understanding of matter.

However, these suppositions, contribute to what Buckley has described in the nineteenth century as "the tensions and contradictions within the various forms of natural theology."[10] Disciplined and thorough study of nature raised issues with the notion of ideal perfection of divine action in nature. This led to revision of the notion of perfect divine action with it coming to be discussed in terms of teleological perfection.[11] That is, that God's ends would be perfectly met rather than there being perfection in every detail. However, even the possible grounds for such supposed teleological perfection become further eroded as the sciences developed. It will be shown that Darwin particularly rejected all notion of teleological perfection. His advocate Huxley further raised serious questions about the existence of a metaphysical soul, leaving both assumptions in dispute.

If a Christian description of divine agency must continue to rely on either assumption, perfection in divine agency or the existence of a metaphysical soul, then the description risks becoming problematic. Divine agency would continue to be an unresolved issue in the dialogue between theology and science.

Nonetheless, in addition to the evolution of their use historically, these two assumptions also allowed the discussion of God's actions in nature, including humans, to be discussed generically, independently of any reference to who God may be. Buckley notes surprise at the minimal response to Newton's protégé Clarke's defence of true religion without mention of,

9. Harrison, *The Bible, Protestantism and the Rise of Natural Science*; Brooke, "Reading the Book of Nature"; Hess, "God's Two Books of Revelation: The Life Cycle of a Theological Metaphor."

10. Buckley, *At the Origins of Modern Atheism*, 358.

11. Clayton, *The Problem of God in Modern Thought*; Passmore, *The Perfectibility of Man*.

"Christology or religious experience."[12] More surprising in the contentious air of that debate is that no one confronts his omission and that this absence "stirs nary a tremor."[13] That divine action could be discussed generically, was demonstrably attractive in an era hostile to any real or perceived departure from orthodoxy. It was particularly attractive to a significant number of leading natural philosophers like Clarke who had adopted heterodox Christologies. Such generic description of divine agency as Divine Providence or simply Providence also helped to avoid controversies around the doctrine of the trinity. By the early nineteenth century this kind of generic description had become widely used. A good example is that the deist William Paley's texts became the set texts at Cambridge for the first major examination.[14]

It will be shown that these theological notions are ultimately self-contradictory. Whilst they contributed to the development of science, both assumptions also contain within themselves the seeds of their mutual destruction. It will be argued that divine agency relying on these assumptions is not the only viable description. If it is possible, as will be argued, to describe divine action, including inspiration, without implying that perfection or metaphysics is essential, then this particular underlying issue can be resolved.

Drawing on the eastern theological tradition, an alternative description is posed developing a description of God's intimate and personal communication by the Holy Spirit from the christological notions of *anhypostasia* and *enhypostasia*. In this the intimate and personal contact of God's Holy Spirit with the human spirit is shaped to human need and limitations in the humanity of Christ. This revised incarnational description makes no assumptions about perfection or metaphysics.

The proposed incarnational description will undergo examination in conversation with the Pneumatology of Karl Barth to order to establish whether it is worth serious consideration. Barth's incarnational or christological Pneumatology also offers an account of the Holy Spirit's work that is not wedded to perfection or metaphysical assumptions. The extensive nature of Barth's theology also allows the study of divine agency in relation to broader academic concerns. These concerns include those underlying the development of the dialogue between theology and science: theological understanding of creation and anthropology; consistency in Pneumatology; and the doctrine of Scripture.

12. Buckley, "Science as Theology," in *At the Origins of Modern Atheism*, 354.
13. Ibid.
14. Paley, *A View of the Evidences of Christianity*; Desmond and Moore, *Darwin*, 64.

This proposal warrants serious consideration if it is theologically coherent and remains plausible while resolving or avoiding a range of known difficulties. The last section of this book establishes this coherence and plausibility. As a revised description of divine agency, this proposal will be shown to avoid past problems, while being able to stand in engagement with a breadth of theological issues. Such a revision is one necessary step of many needed to resolve underlying issues in the breadth of the dialogue. Doubtless, divine agency is not the only reason for underlying unresolved issues between theology and science. My aim is to address divine agency as one of the unresolved issues needed to enable conciliatory debate between theology and science to continue. The proposal that the incarnation is constitutive for divine agency in humans will be shown to substantially alter the mix of these ideas and not to lead to the same kinds of tensions and contradiction to which Buckley refers.[15] This, however, leaves open the question of divine agency in the world though it is possible that such a description might suggest how the incarnation might be considered constitutive of divine agency in general.

It needs to be stated clearly from the outset that the relationship between theology and science is complex and is not well served by one-dimensional descriptions. To say they are in conflict is simply not supported by the literature. There are harmonies. There are areas of independence. There are areas of constructive interaction. These are demonstrable between the disciplines and even exist within each discipline and in dialogues on specific issues. Also disputes and methodological issues exist within each discipline, which are not connected with the dialogue.

Complexity of the Theology and Science Dialogue

As Bowler has indicated academic debate between theology and science has grown afresh since the last decade of the twentieth century. While this may seem to give theology an apparently stronger voice, on closer inspection this may not always be the case. Peterson argues that theology should be considered an equal partner in the theology science dialogue, but notes as a difficulty theology's absence as a discipline from the contemporary university.[16] Nonetheless, even if such equality is in question, a brief literature review indicates there is a great deal of cooperation, goodwill and attempts at understanding between theology and the sciences. The outcome of the interactions varies considerably. There are examples of mutual understanding

15. Buckley, *At the Origins of Modern Atheism*, 358.
16. Peterson, "In Praise of Folly? Theology and the University."

and even necessary interdependence; however, there remain some issues where differences between theology and science remain apparently intractable. In spite of significant concord being reached, these intractable issues still hold the potential to derail dialogue yet again.[17] This book suggests a way to resolve one such intractable case. In doing so it may offer hope that it may be possible to advance the dialogue beyond such points of intellectual stalemate or conflict.

While many scholars have commented on the shape the dialogue takes or should take,[18] Barbour has been influential in offering four ways of understanding the interaction between science and religion: conflict, independence, dialogue and integration.[19] Though criticized as limiting and misleading,[20] Barbour's categories are often used in sociological analyses of as the nature of the debate and the spread of academic thinking and belief.[21] Brown particularly shows among scientists that the range of contemporary beliefs remains similar to the range held in 1910. As Brown's results have been confirmed[22] it has been suggested that little has changed in the debate during the last century, whether it be due to lack of critical self-analysis, failure to resolve key issues, or failure of solutions to gain wide support or interest. Worthing has indicated that many scientists still enter the dialogue with theologically conservative notions like those of the nineteenth century, which directly affect their expectations of the shape of divine agency in the world.[23]

In spite of Barbour and others championing conciliatory models for the shape of the dialogue, the public extremes endure.[24] Irrespective of their

17. Bowler, *Reconciling Science,* 1–20, 411–20.

18. Chung, "Karl Barth and God in Creation: Towards an Interfaith Dialogue with Science and Religion"; Marcum, "Exploring the Rational Boundaries between the Natural Sciences and Christian Theology"; Moritz, "Science and Religion: A Fundamental Face-Off, or Is There a *Tertium Quid*?"; Murphy, "On the Role of Philosophy in Theology-Science Dialogue"; Rae, Regan, and Stenhouse, eds., *Science and Theology: Questions at the Interface*; Trenn, "Science, Faith and Design,"; Nebelsick, *Theology and Science in Mutual Modification*; Peacocke, *The Sciences and Theology in the Twentieth Century*.

19. Barbour, *When Science Meets Religion*.

20. Brooke, "The Changing Relations between Science and Religion"; Cantor and Kenny, "Barbour's Fourfold Way: Problems with His Taxonomy of Science-Religion Relationships," 1–20.

21. Brown, "The Conflict between Religion and Science in Light of the Patterns of Religious Belief among Scientists."

22. Case-Winter, "The Question of God in an Age of Science "; Larson and Witham, "Scientists Are Still Keeping the Faith."

23. Worthing, *God, Creation and Contemporary Physics*, 29–30, 159–68.

24. Christian creationism and materialistic atheism view each other as the "root of

relative academic merits there continues vociferous public and academic debate. In North America this has been part of what has been termed, "culture wars." Studying the history of the debate, the persistence of forms of academic creationism as well as their ongoing developments in social and political thought led Numbers to revise and greatly expand his study on these schools of thought arguing for their serious academic consideration without necessarily agreeing with their arguments. Conciliatory examples of dialogue do exist[25] and involvement of theology is indispensable in relation to ethical scientific research.[26]

In terms of Barbour's four categories of interaction—conflict, independence, dialogue and integration—all are present, though it would be fair to say that discussions between theology and cosmology show more dialogue and integration[27] whereas those between theology and the life sciences show more conflict and independence. [28] While there are instances where common ground can be identified such as natural selection favouring the development of ethical or theological notions such as altruism,[29] there

all evil." Dawkins, *The God Delusion*; Shanks and Dawkins, *God, the Devil, and Darwin: A Critique of Intelligent Design Theory*. 10. Lambert, "Fuller's Folly, Kuhnian Paradigms, and Intelligent Design"; Smedes, "Social and Ideological Roots of 'Science and Religion': A Social-Historical Exploration of a Recent Phenomenon." Numbers, *The Creationists: From Scientific Creationism to Intelligent Design.* Original and revised editions. The revision greatly expanded the book from 436 to 606 pages.

25. Pannenberg, *Toward a Theology of Nature*; Murphy, "What Has Theology to Learn from Scientific Methodology?"; Murphy, "Science as Goad and Guide for Theology,"; Ruse, "An Evolutionist Thinks About Religion,"; Edwards, "Christology in the Meeting between Science and Religion: A Tribute to Ian Barbour"; Jackelén, "What Theology Can Do for Science"; Burtt, *The Metaphysical Foundations of Modern Physical Science*.

26. Klinefelter, "E. O. Wilson and the Limits of Ethical Naturalism"; Kuczewski, "Two Models of Ethical Consensus, or What Good Is a Bunch of Bioethicists"; Shults, "Anglo-American Postmodernity: Philosophical Perspectives on Science, Religion, and Ethics."

27. Ross, *The Creator and the Cosmos*; Craig and Smith, *Theism, Atheism and Big Bang Cosmology*; Jastrow, *God and the Astronomers*; Stoeger, "Cosmology and a Theology of Creation"; Stoeger, "Science the Laws of Nature and Divine Action."

28. Wilson, *Consilience*; Young, "Can the Creationist Controversy Be Resolved?"; Ruse, "John Paul II and Evolution"; Edwards, "Evolution and the Christian God"; Barbour, "Evolution and Process Thought"; Haught, "In Praise of Imperfection"; Hewlett and Peters, "Why Darwin's Theory of Evolution Deserves Theological Support"; Lennox, *God's Undertaker: Has Science Buried God?*; Ashton, *In Six Days*.

29. Dawkins, *The Selfish Gene*, viii. Dawkins would himself reject that there was any theological implication of this effect.

remain apparent impasses or contradictions such as the theological notion of purposeful eternity versus the heat death of the universe.[30]

Hints of the existence of commonality in dialogue have fuelled interest in the revision of theology and less commonly science to either overcome particular impasses or improve that which is held in common.[31] One commonly used type revises theology using Whitehead's process theology.[32] Bowler notes similar Whiteheadian influence in the work of Waddington, Eddington, Barnes, Fisher, Needham, Morgan, Morrison, Inge, Thornton and Temple. It is salient to note Bowler's warnings arising from these and other attempts to harmonize theology and science in the early twentieth century. These he argues were prone to two related errors. "A relatively small number of influential writers were able to present an interpretation of science that was almost certainly out of touch with what the majority of working scientists thought."[33] Secondly, that theological revisions linked to a particular theological school or theory failed to win support as that school or theory lost or failed to achieve prominence.[34] Any revision hoping to succeed must win wide acceptance and be relevant among both theologians and scientists.

It is generally accepted that theological understandings influenced the historical development of science from its roots in seventeenth-century natural philosophy to the nineteenth century.[35] A typical summary is that of Hess who notes,

30. Polkinghorne, *Science and Christian Belief*, 162–70.

31. Bowler, "Development and Adaptation: Evolutionary Concepts in British Morphology"; Bowler, "Evolution and the Eucharist: Bishop E. W. Barnes on Science and Religion in the 1920s and 1930s"; Bowler, *Reconciling Science and Religion: The Debate in Early Twentieth Century Britain*; Whitehead, *Process and Reality: An Essay in Cosmology*; Worthing, "God, Process and Cosmos: Is God Just Going Along for the Ride?"; Peacocke, "Science and the Future of Theology: Critical Issues."

32. Barbour, *When Science Meets Religion*; Barbour, "Evolution and Process Thought"; Needham, *Science, Religion, and Socialism*; Needham, *Science Religion and Reality*; Bowler, *Reconciling Science and Religion: The Debate in Early Twentieth Century Britain*, 80, 104, 154, 171–72, 241, 275, 280, 304, 306.

33. Ibid., 420.

34. Ibid. 411–18.

35. Lindberg, *The Beginnings of Western Science*; Numbers and Lindberg, *God and Nature: Historical Essays on the Encounter between Christianity and Science*; Brooke, *Science and Religion: Some Historical Perspectives*; Brooke, "The Changing Relations between Science and Religion"; Brooke and Cantor, *Reconstructing Nature: The Engagement of Science and Religion*; Brooke, "Reading the Book of Nature"; Henry, *The Scientific Revolution and the Origins of Modern Science*; Harrison, *The Bible, Protestantism and the Rise of Natural Science*; Harrison, "Curiosity, Forbidden Knowledge, and the Reformation of Natural Philosophy in Early Modern England"; Harrison, "The Book of

> Pervading the tradition of natural theology in the Christian West has been the theme of "God's two Books." This metaphorical pairing the "book of nature" and the "book of Scripture" expressed the medieval and early modern conviction that the divine existence and wisdom are clearly revealed by a pair of complementary sources . . . How did the nineteenth century development of evolutionary biology and historical biblical criticism—both of which so profoundly inform our contemporary dialogue—lead to its abandonment or drastic modification?[36]

Harrison suggests that science developed as similar interpretive rigor to read the book of nature as that used in relation to the book of Scripture. Harrison's thesis is that in the process of adapting rigorous methods for reading the book of nature the assumptions which underpinned interpretation of the book of Scripture were also applied to the book of nature. This current discussion builds on Harrison's argument that that an understanding of divine agency in world developed through the application of related assumptions.

There exist other descriptions of how theological presuppositions influenced the development of modern science. These have been often used but have been challenged and will continue to be criticized here. Two influential theories need particular mention. The first is Merton's 1938 thesis suggesting that Puritanism was necessary to the rise of modern science.[37] Brooke and Harrison detail how Merton fails to encompass the broader protestant influence of actual practitioners of science and Harrison leaves Merton to suggest more specifically that Protestant interpretation of texts was a major catalyst.[38] The second influential thesis is that of Foster who asserted the Calvinistic notion of Divine voluntarism has been a spur to the

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Nature and Early Modern Science"; Harrison, "Religion, the Royal Society, and the Rise of Science"; Lightman, *The Origins of Agnosticism: Victorian Unbelief and the Limits of Knowledge*; Hooykaas, *Religion and the Rise of Modern Science*.

36. Hess, "God's Two Books of Revelation: The Life Cycle of a Theological Metaphor."

37. Merton, *Science, Technology and Society in the Seventeenth Century England*. Critics include Osler, "Mixing Metaphors: Science and Religion or Natural Philosophy and Theology in Early Modern Europe"; Brooke, *Science and Religion: Some Historical Perspectives*, 110–16; Henry, *The Scientific Revolution*, 93, 94; Harrison, *The Bible, Protestantism and the Rise of Natural Science*, 8; Harrison, *The Bible, Protestantism and the Rise of Natural Science*; Harrison, "The Book of Nature and Early Modern Science"; Harrison, "'Science and Religion': Constructing the Boundaries"; Greaves, "Puritanism and Science: Anatomy of a Controversy."

38. Harrison, "Voluntarism and Early Modern Science"; Harrison, "Was Newton a Voluntarist?"

investigation of the natural order.[39] While this complex theory has significant usage it has received some criticism that it reaches too far.[40] Harrison suggests its dismissal. Among Harrison's reasons is that voluntarism is not able to be demonstrated to have influenced actual key historical figures.[41] While Foster's thesis seems plausible, actual examination of the writings of supposed voluntarists, such as Newton, reveals content which directly contradicts Foster's assertions.[42]

Can the Reality of God's Personal Interaction with Humans Be Maintained?

As this book will focus on the influence of one particular understanding of divine agency—how God acts through the spirit in humans—it is worth noting that another open question both theologically and scientifically is the nature of spirit and God.[43] The nature of spiritual existence and its shape is a topic of ongoing study and conjecture which extends to investigations regarding the nature of the soul or even is existence.[44] The existence of a

39. Foster, "The Christian Doctrine of Creation and the Rise of Modern Science"; Foster, "Christian Theology and Modern Science of Nature (I.)"; Foster, "Christian Theology and Modern Science of Nature (II.)"; Oakley, "Christian Theology and the Newtonian Science: The Rise of the Concept of the Laws of Nature."

40. Davis, "Christianity and Early Modern Science: Beyond War and Peace?"

41. Harrison, "Voluntarism and Early Modern Science"; Harrison, "Was Newton a Voluntarist?"

42. See chapter 3 on Newton.

43. Green, "Restoring the Human Person: New Testament Voices for a Wholistic and Social Anthropology"; Murphy, "Darwin, Social Theory, and the Sociology of Scientific Knowledge"; Murphy, "How Physicalists Avoid Being Reductionists"; Murphy, "Why Christians Should Be Physicalists"; Clayton, "Biology, Directionality, and God: Getting Clear on the Stakes for Religion—Science Discussion"; Clayton, "The Emergence of Spirit: From Complexity to Anthropology to Theology"; Conway, "Defining 'Spirit': An Encounter between Naturalists and Trans-Naturalists"; Work, "Pneumatological Relations and Christian Disunity in Theology-Science Dialogue"; Yong, "Discerning the Spirit(s) in the Natural World: Toward a Typology of 'Spirit'"; Polkinghorne, "Physics and Metaphysics in a Trinitarian Perspective"; Simmons, "Quantum Perichoresis: Quantum Field Theory and the Trinity"; Yong, "The Spirit at Work in the World: A Pentecostal-Charismatic Perspective on the Divine Action Project"; Pannenberg, "God as Spirit—and Natural Science."

44. Green, "Restoring the Human Person: New Testament Voices for a Wholistic and Social Anthropology"; Russell et al., *Neuroscience and the Person: Scientific Perspectives on Divine Action*; Masters and Churchland, "Neuroscience and Human Nature the Engine of Reason, the Seat of the Soul: A Philosophical Journey into the Brain"; Spezio, "Interiority and Purpose: Emerging Points of Contact for Theology and the Neurosciences"; Watts, *Science and Theology*; Barrett, "Is the Spell Really Broken?

human metaphysical spiritual element or soul has been an apparent mainstay of the Christian faith. Whilst Green, Murphy and others argue that this need not be the case, the answers to many theological questions presuppose the existence of a metaphysical spirit or soul. If there is no metaphysical soul then many theological descriptions will need revision or even abandonment. This is critical for this discussion which focuses on one aspect of God's work through the spirit, namely the agency by which God communicates knowledge of God by the action of the Holy Spirit to or through the human spirit. The manner of God's self-communication to humans has traditionally been described as involving a metaphysical human soul or spirit. If such divine communication depends on there being a metaphysical soul, then the Christian faith stands or falls on the health of that premise. Worryingly for this premise, neurobiological studies have located many attributes previously considered spiritual and hence metaphysical within the biochemistry of the brain. Such a rational and strong challenge to the existence of metaphysical soul is demonstrably not new.[45] A number of questions might be posed. It could be asked whether there may be a way to describe the soul which answers the challenge of neurobiology and anatomy. Rather than pose a "soul-of-the-gaps" this book will ask whether the nature of divine self-communication to humans can be described in a manner which operates independently of any given metaphysical anthropological theory. What is at stake in this question is whether divine communication to humans can actually occur as intimately and personally as Christian theology has contended. If such communication is predicated on God's contact with a metaphysical soul and there proves to be no such entity, then God can only be known by indirect means and traditional Christianity becomes problematic.

The question to be addressed is whether it is possible to describe the agency God's intimate and personal communication by the Holy Spirit independently of metaphysical anthropology. Drawing on the eastern theological tradition, an alternative description is posed developing a description of God's intimate and personal communication by the Holy Spirit from the christological notions of *anhypostasia* and *enhypostasia*. In this the intimate

Bio-Psychological Explanations of Religion and Theistic Belief"; Dodds, "Hylomorphism and Human Wholeness: Perspectives on the Mind-Brain Problem"; Jeffreys, "The Soul Is Alive and Well: Nonreductive Physicalism and Emergent Mental Properties"; Jeffreys, "A Counter-Response to Nancey Murphy on Non-Reductive Physicalism"; Murphy, "Response to Derek Jeffreys."

45. Brennan, "Has the frog human a soul?"; see chapter 4.3 on Huxley. Huxley, "On the Present State of Knowledge as the Structure and Functions of Nerve"; Huxley, "Has a Frog a Soul?"; Huxley, "On Sensation and the Unity of Structure of Sensiferous Organs."

and personal contact of God's Holy Spirit with the human spirit is shaped to human need and limitations in the humanity of Christ.

It will be argued that the appropriate theological context for discussing the agency of divine communications with human beings is in relation to the question of inspiration. This is a rather more general usage of inspiration than in relation to the doctrine of Scripture which has been inspiration's main focus in three of the last four centuries. A new place will be suggested for inspiration within Pneumatology in general apart from being in relation to the doctrine of Scripture. Why this particular aspect of the Holy Spirit's work should be considered more broadly will be proposed by reference to the development of the terminology of inspiration in the early church.

Technical Issues Related to the Theology and Science Dialogue

Before describing how this book will develop it is appropriate to highlight some technical issues which affect study of these disciplines. Failure to recognize these issues has led research to incorrect results, to overlook important historical detail and relationships as well as led to inappropriate generalized assertion of conclusions. The two areas of particular interest are historiographical bias in the histories of science and the logical fallacy of affirming the consequent. The third technical issue involves the place of inspiration as a doctrine within the broader question of the place of doctrine within theology.

Bias and History of Science

Imre Lakatos adapting Kant commented "Philosophy of science without history of science is empty; history of science without Philosophy of science is blind."[46] This comment is particularly relevant as much history of science has been blind to well-known biases which have adversely affected the study of some important figures. A case in point is the study of Isaac Newton which has been clouded by multiple revisionist histories and serious ongoing politicized debate.[47]

46. Lakatos, "History of Science and Its Rational Reconstructions," 102.

47. Fara, *Newton: The Making of Genius*; Jacob, "Introduction"; Noakes, "Recreating Newton: Newton Biography and the Making of Nineteenth Century Science"; Osler, "The New Newtonian Scholarship and the Fate of the Scientific Revolution."

Anachronism is often overlooked. Applying a term or an idea to a time in which it is not used is one error that should be obvious but is often missed. The use of the terms science and religion serve to illustrate the point as they are often used of debates centuries into the past. "Science" in its modern usage was first applied to the discipline in the mid-nineteenth century by William Whewell, similarly "religion" before this period referred to personal faith rather than a system of belief.[48]

Regarding terminology, it is important to note that in Newton's period, the seventeenth and eighteenth centuries, he and his colleagues are correctly termed Natural Philosophers. It is only by the mid nineteenth century that the newly coined term "Scientist" is applied. The term was coined by William Whewell. There is a transition from the seventeenth-century polymath who might, like Galileo, be expected to be expert in mathematics, astronomy, astrology, alchemy and music to the specialist like Darwin who devoted years to a much narrower discipline such as barnacles within the new science of biology. Ironically, it was this commitment to a detailed methodological and exhaustive study of the book of nature which allowed the detailed study of biology to have become part of science by the nineteenth century. Mere animal husbandry was deemed to be beneath the interest of the natural philosopher in the seventeenth. Hence the notion of the two books ironically prompted the detailed study of nature, a study which will be shown to later sow the seeds of its own demise.

In addition to anachronism there are other well documented historiographical biases which particularly affect histories of science; Whigg histories of onward ever upward progress into the shining present fails to appreciate the past on its own terms;[49] presentism, a specific type of anachronism, where concerns, motivations, terms and ideologies in the past are not interpreted in relation to their past use but in relation to present theories or ideologies, e.g. Merton interpreting Puritan thought by "obviously" superior 1938 science[50] and; the myth of the heroic rational and moral scientist working in ideal solitude to further knowledge.[51] These types of biases

48. Harrison, "'Science and Religion': The Constructing the Boundaries."

49. McEvoy, "Positivism, Whiggism, and the Chemical Revolution: A Study in the Historiography of Chemistry."

50. Kragh, *An Introduction to the Historiography of Science*, 47. Merton, *Science, Technology and Society in the Seventeenth Century England*. See also Osler, "Mixing Metaphors: Science and Religion or Natural Philosophy and Theology in Early Modern Europe," 96–99.

51. Appleby, Hunt, and Jacob, *Telling the Truth about History*, esp. 15–51; Jeans, *The Growth of the Physical Sciences*; Lodge, *Pioneers of Science*; Yeo, *Defining Science: William Whewell, Natural Knowledge, and Public Debate in Early Victorian*.

lead to the rejection of historical data that do not fit the explanatory theories and can lead to the imposition of ideas resulting in seemingly satisfying contemporary theories which have little to do with historical fact. Draper and White's largely discredited warfare myth[52] fails in part by ignoring these kinds of bias.

Any discussion dealing with the history of the interactions between theology and science and their antecedents needs to remain conscious of such sources of bias. More weight should be given to primary sources than later theory.

A Logical Fallacy—Affirming the Consequent

Logical fallacies obviously lead to problematic reasoning and incorrect conclusions. A key logical fallacy related to the dialogue is affirming the consequent.[53] This logical fallacy can occur in Whigg histories of science as such histories tend to omit details of history that do not fit the orderly progression and improvement of ideas. This fallacy is characterized by concluding that a consequent outcome must be the result of a particular chain of events. In a simple form this would be,

e.g.: *A) If a car runs out of fuel it stops.*

B) Your car has stopped.

C) The false conclusion—your car must have run out of fuel.

This can only be true if lack of fuel is the only possible reason for the car stopping. It is a fallacy because while each logical step may lead to the conclusion the outcomes may well be caused by other means. The Biologist E O Wilson has stated that evolutionary biologists are particularly prone to committing this fallacy.[54] The fallacy lies in concluding that if the answer obtained looks like it is right, then all the steps to get there are right too. It is like saying you took all the right directions to get to your destination no matter how often you got lost or how late you arrive. Conversely, if the conclusion is wrong it is often mistakenly assumed that all steps taken are also wrong.

52. Draper, *History of the Conflict between Religion and Science*; White, *A History of the Warfare of Science with Theology in Christendom*.

53. Warburton, *Thinking from A to Z*, 5–7.

54. Wilson, *Consilience*, 94–95.

Affirming the consequent will be an issue twice in the course of this book. The first case involves Foster's theory which purportedly explains the development of Newton's thought. The second case deals with the development of an apparent impasse in which forces a choice between scientific rationality and religious sentiment as the basis for theology in the nineteenth century.

The Place of Doctrine in Theology

The third technical issue is how doctrines work within theology. Divine agency and the doctrine of inspiration do not stand alone from broader questions about the place and functioning of doctrine within theology as an academic discipline and theology's future as an academic discipline. Lash recognises the difficulty of theology's status attributing the challenged academic status of theology to a more general problem. He states that in this last period of modernity westerners are left with the enlightenment legacy of "a crisis of docility." That is:

> Unless we have the courage to work things out for ourselves, to take as true only that which we have personally ascertained or, perhaps, invented then meanings and values, descriptions and instructions, imposed by other people, feeding other people's power, will inhibit and enslave us, bind us into fables and falsehoods from the past. Even God's truth, perhaps especially God's truth, is no exception to this rule. Only slaves and children should be teachable or docile.[55]

This legacy has affected the nature of theological discourse so that

> by the end of the nineteenth-century, Western religious thought found itself trapped by the dominant narrative into an uncomfortable dilemma: either, on the one hand, adopt discredited and outdated particularities of worship, association and belief ("sect," "ghetto" and "dogma" not being labels of approbation); or, on the other, embrace that diffuse religiosity of discourse which suffuses national identity, ambition and public control with a warm glow of transcendent benediction, giving currency (sometimes quite literally!) to the sentiment in God we trust.'[56]

The problem for Christian theology is that if the Christian faith has any basis for making broad public truth claims then such a billabong existence is

55. Lash, *Believing Three Ways in One God: A Reading of the Apostles Creed*, 10.
56. Lash, *The Beginning and the End of Religion*, 222.

a denial of the importance of its subject matter. A billabong is an Australian Aboriginal word for an often calm leafy pleasant waterhole which is left behind after a river changes course. In the arid Australian climate, they are prone to suddenly drying out and dying. Because of what it claims to deal with, theology cannot allow itself to remain at the margins of serious academic debate nor be seen merely as an end in itself.

A concurrent difficulty is theological, as terminology used to speak of the work of the Holy Spirit has suffered from both conflation and narrowing. One such example is the almost synonymous use of the term revelation with inspiration or indeed to replace inspiration which has been seen to be a difficult term. One of the difficulties presented by this usage is that a more general enlivening sense of the Holy Spirit's agency becomes confused with the impartation of knowledge or solely with the impartation of propositional truth. Paradoxically, reference to the doctrine of inspiration becomes merely shorthand to describe the narrow horizon of knowledge imparted from the perspective of the inspiration of Scripture. This is far removed from Calvin's usage in which personal inspiration by the Holy Spirit is an act of divine agency which confirms the prior inspiration of Scripture.[57]

There is a question of terminology about how to speak of the work of the Holy Spirit. How should we distinguish the Holy Spirit's action in the human person in general terms as a subset of Pneumatology in general from the Holy Spirit's role in intra-Trinitarian relations or in divine agency in the world or in eschatology? Rowan Williams, commenting that there has been, "a certain poverty in theological reflection on the Holy Spirit in Western Christianity over the last decades,"[58] addresses the personal work of the Holy Spirit with reference to the Johannine concept of Paraclete.

> John sees the Paraclete as active in and with the disciples, moving them towards Father and Son, as well as acting simply *upon* them. The agency of the Paraclete is understood in terms of distance and response rather than simple identification with the agency of Father and Word.[59]

Even in the personal work of the Holy Spirit in humans, this paracletic work, it is possible to distinguish a range of actions. Williams cautions against speaking of this paracletic work too narrowly lest the richness of who God is be lost in the description.

57. Calvin, *Institutes* 1.8.7, 1.7.8, 1.13.7, 1.14.7, 1.18.2, 3.20.5, 3.20.42, 4.10.25.
58. Williams, *On Christian Theology*, 107.
59. Ibid., 119.

> The Spirit is associated with the character of Christian existence as such, creating in the human subject response to, and conformation to, the Son. The Spirit's witness is not a pointing to the Son outside the human world, it is precisely the formation of "Son-like" life in the human world; it is the continuing state of sharing in the mutuality of Father and Son; it is forgiven or justified life. . . . The distance between God and the world is transcended . . . And if all this is, in whatever sense, the work of Spirit, it is clear that the association of Spirit exclusively or chiefly with the more dramatic charismata is a misunderstanding.[60]

One may argue that all these actions are interrelated, as indeed is the paracletic work of the Holy Spirit with the Spirit's role and work in general it is useful to differentiate elements such as the Spirit's "inspiring work" or "sanctifying work" or "converting work" or "recreating work." Thus this discussion focuses on the description of the inspiring work of the Holy Spirit and more particularly on the agency of that divine interaction. While presumably such agency would address the production of Scripture, this would only be one aspect of how God by this agency acts to enliven humans to know, to learn and to act in a new manner.

How it is that theology's claims act as doctrines is also a matter of current debate. While Lindbeck notes that most Christian traditions have held that their doctrines are normative and permanent, there has, he claims, developed a contemporary environment of antidoctrinalism in opposition to what developed as a polarisation with theology between treating doctrines as either propositional statements or expressions of subjective pre-cognitive experience.

He argues that a regulative or rule theory for doctrine that restates traditional doctrines "has advantages over other positions"[61] and is essential to enabling theology to continue to have a voice in academic debate and in ensuring the cohesion of the faith itself. "Privatism and subjectivism that accompany the neglect of communal doctrines lead to a weakening of the social groups . . . that are the chief bulwarks against chaos and against totalitarian effort to master chaos."[62] With such revisions to doctrines "it need not be the religion that is primarily reinterpreted as world-views change, but rather the reverse: changing world-views may be reinterpreted by the one and same religion."[63]

60. Ibid., 120.
61. Lindbeck, *The Nature of Doctrine: Religion and Theology in a Postliberal Age*, 73.
62. Ibid., 77–78.
63. Ibid., 82.

Lindbeck is not alone in seeking a revision or renewing of doctrine. Francis Watson, with the aim of rekindling dialogue leading to a renewal of the doctrine of Scripture, has questioned the foundational place for the doctrine of inspiration as usually expressed establishing both Scripture's identity and authority. Rather he poses that "the concept of inspiration serves to *explain* the identification of the Bible as the Word of God, and the Bible is Word of God by virtue of its origin."[64] Inspiration then, as I will argue, remain necessary not as a foundation for understanding the doctrine of Scripture but more rightly as part of Pneumatology and anthropology.

Divine Agency Develops from Three Factors Commonly Understood in Early Modernity and the Possibility of an Alternative

As indicated earlier, it will be argued that the formation of an understanding of divine agency in the world that developed with a conjunction of three factors in early modernity. These three factors are how the divine perfections were understood, the application of the notion of the two books of God's revelation in Scripture and nature, the broader use of the idea of divine agency contained in the doctrine of inspiration. This particular understanding of divine agency relies on the existence of the soul as an essential component of human anatomy and that God's action within the soul or in similar manner in the world is supposed as perfect. If a Christian description of divine agency must continue to rely on either assumption, then logically, faith stands on an all-or-nothing basis depending on demonstrable proof of the perfection of God's action in nature.

As this logical connection leads to an unsustainable conclusion it would be tempting to abandon inspiration. Unfortunately, such abandonment discards the reality of personal contact between God and humans and abandons an essential element of historical Christianity. If it can be shown that the problematic logic is merely a conclusion derived from a flawed description of inspiration, then the dichotomy is false and such personal contact need not be forsaken. If as it will be argued that the agency and action of God do not automatically imply perfection by human standards, then what does happen when God acts in nature or through a human being? The contention here is that the understanding of divine agency which developed from use of an inadequate description of inspiration when combined with non-christological understandings of divine perfections and the notion of

64. Watson, "Hermeneutics and the Doctrine of Scripture," 9n20.

the two books forced an all-or-nothing dichotomy between divine perfection and divine non-existence. This impasse can impede the resolution internal to belief of dialogue between theology and science. This is arguably demonstrable, for example, in the writings of Darwin and Huxley. If an individual lacks the ability to resolve such an internal dichotomy or simply lacks confidence that it can be resolved it may well be expected to affect how they engage in the wider debate between theology and science.

This book will trace how this dichotomy develops. The next chapter will review the first two established factors and put the case for the importance of inspiration as a third. It will also outline the detail of inspiration's dominant Augustinian expression. While the next chapter will describe the understanding of these three factors in early modernity, those that follow will describe how the understanding of divine agency develops.

One important aspect of the next chapter will be to explore how the doctrine of inspiration developed in the west. Augustine's description has its roots in Tertullian's and be shown to draw on Aristotelian and classical medical ideas including those of the philosopher Cleanthes and the gynaecologist Soranus of Ephesus. In the Augustinian description of inspiration, the soul is understood to be a metaphysical element of a human which is necessarily stood aside during the direct action of the Holy Spirit. Therefore, *ekstasis* is automatic when the Holy Spirit acts. This development has not been previously thoroughly explored. Most relatively recent treatments of the development of the doctrine of inspiration deal solely with inspiration presuming it only pertains to Scripture.[65] None seem to deal with inspiration in broader terms such as that used by Calvin's in *Institutes* of there being related divine and secret inspiration. While Augustine's description becomes dominant, his bitter controversy with Jerome suggests the existence of a different but neglected understanding of inspiration. It is possible to trace a differing line of theological argument which will be developed as an incarnational description of inspiration. This will open up a different way to understand divine agency in humans.

As will be described in the next chapter it is only after the Reformation that the Augustinian description's emphasis on the perfection of God's action in communicating Scripture combines with a more general understanding of the divine perfections to bear the weight of scripture's authority as Protestants acted to exclude the suspect authority of the church. In the seventeenth century there was a renewed application of the notion of the two books of God's revelation to the understanding of the natural world.

65. Benoit, *Revelation and Inspiration*; Gaussen, *Thoepneustia: The Plenary Inspiration of the Holy Scriptures*; Marshall, *Biblical Inspiration*; Sanday, *Inspiration*; Sasse, "Inspiration and Inerrancy"; Sasse, "Concerning the Nature of Inspiration."

Also there was also a resurgence of interest in Augustinian anthropology among Newton's contemporaries that shaped the development of natural philosophy.[66] The third chapter will demonstrate the influence of the Augustinian description of inspiration in the development of Natural philosophy in the seventeenth century in the work of Isaac Newton. This will highlight a common theological dimension throughout Newton's work which has previously been overlooked and will address some aspects of his thought which are known not to be fully explained by existing descriptions of his work. It will be shown that Newton's understanding of the spiritual nature of matter allowed him to postulate the action of God's omnipotence inspiring the natural world in a manner that parallels the Augustinian description of how the Holy Spirit's acts during inspiration of humans.

Newton's notions retained influence in various aspects of natural philosophy and natural theology during the next century. However, what is more significant for the debate between theology and science is that Newton's successes fuelled the assumption that it was possible to discover God's communication written in the world's natural order unalloyed by the fall or the taint of sin. As a corollary of perfect divine inspiration, this led to presuming that what God has chosen to communicate will have been perfectly recorded in either Scripture or nature. By the turn of the nineteenth century, detailed examination of the book of nature yielded a mounting body of evidence that did not meet this expectation that God's communication would be revealed in its perfection.

Therefore the fourth chapter of this book demonstrates through the thought of Darwin and Huxley how the notion of the two books of revelation and its integral metaphysical Augustinian description of inspiration came to be at odds with what was being discovered of the world and how it led both to a studied place of agnostic uncertainty concerning God, the soul and the possibility of God's communication through the soul or the world. Because both assumed perfect divine action and metaphysics do not hold, this had led to questioning the reality of God's personal contact with humans. For this reason the theological task becomes one of offering an account of inspiration which is not linked to perfection or to an Aristotelian metaphysical anatomy.

Having demonstrated that the description of divine agency contained in the metaphysical Augustinian description of inspiration has been at first influential in the development of natural philosophy and later poses problems for science, it remains in the last part to establish whether the posed incarnational description overcomes these problems. This proposed

66. Harrison, *The Fall of Man and the Foundation of Science*.

incarnational description of divine agency is based in the theological notions of *anhypostasia* and *enhypostasia*. In this description, inspiration as the Holy Spirit's action in humans is seen to derive from the unique action of the Holy Spirit in the humanity of Christ. This revised incarnational basis for divine agency in humans makes no assumptions about perfection or metaphysics.

The proposed incarnational description of divine agency will undergo examination in conversation with the Pneumatology of Karl Barth in order to establish that it is worth serious consideration. Barth's incarnational or christological Pneumatology offers an account of the Holy Spirit's work that is not wedded to perfection or metaphysical assumptions. The extensive nature of Barth's theology allows the study of inspiration in relation to broader academic concerns. These concerns include those underlying the development of the dialogue between theology and science: theological understanding of creation and anthropology; consistency in Pneumatology; and the doctrine of Scripture.

This proposal warrants serious consideration if it is theologically coherent and remains plausible while resolving or avoiding a range of known difficulties. The last section establishes this coherence and plausibility. As a revised description of inspiration, this proposal will be shown to avoid past problems, while being able to stand in engagement with a breadth of theological issues. Such a revision of inspiration is one necessary step of many needed to resolve underlying issues in the breadth of the dialogue. Doubtless, inspiration is not the only reason for underlying unresolved issues between theology and science. It is the aim of this work to provide one building block needed for enabling conciliatory debate between theology and science to continue.