AN ANALYSIS OF THE APPLICATIONS OF KEY IDEAS FROM THE PHILOSOPHY OF SCIENCE TO THE UNDERSTANDING OF DOCTRINAL DEVELOPMENT

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SUMMARY

The earliest, most comprehensive examination of how Christian doctrines develop was written by John Henry Cardinal Newman. He sought to demonstrate that this occurs in a slow and steady fashion and without great upheaval or conflict. Since then, different alternatives by Peter Toon, Hans Küng and Roger Olson among others, have challenged this notion by noting the effect that other social and cultural factors might have on the development of specific doctrines.

In the philosophy of science, in the 1960s, Thomas Kuhn wrote a treatise which challenged the status quo of how science itself progresses. He noted there are occasions where long-standing views are overthrown by factors that are not scientific in nature. However, theories from the philosophy of science have been under-utilised in understanding progress of Christian doctrines. In this thesis it will be shown that Christian doctrines have often followed neither a smooth nor linearly progressive path, but have been characterised by specific events leading to a dramatic re-evaluation of previously held beliefs or doctrines. Insights from the philosophy of science, in particular Kuhn's theory of scientific revolutions, are applied to the historical development of Christian doctrine. However, there are limits to the application of Kuhn's ideas to doctrinal development and these will also be highlighted. In this regard, the work of other philosophers of science, such as Larry Laudan and Imre Lakatos will also be examined to show how they can aid in the understanding of the development of Christian doctrine.

Several specific doctrines, as well as the literature on how Christian doctrines develop, will be analysed. Given that arguments can be made to show the origins, progress and development of Christian doctrines can parallel processes in science, an analogy might be made that Christian doctrines can in fact be viewed as *scientific* Kuhn's ideas will be discussed and methodically applied to the foundations of Christian doctrines, showing correspondences between scientific and doctrinal progress. It will also be shown that models from the philosophy of science can be used to aid in understanding how Christian doctrines begin, develop and mature with previous

work in the philosophy of science used as a tool to study and understand the nature of Christian doctrines.

This thesis will recall previous works which draw analogies from the philosophy of science to Christian thought. However, in largely focusing on the applications of Kuhnian perspectives to explain the development of Christian doctrine, an emphasis is also given to social factors. This partly relativistic epistemology, where the “knower” cannot be completely separated from the “known”, places it at the opposite end of the spectrum to objective epistemology. Specific case studies such as the doctrine of original sin, justification and the Trinity are described and serve to reinforce the theoretical statements of this work.

DECLARATION

I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed,

X _____

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Introduction

Every reformation and revolution carries a tension between those who insist that everything must be reformed and those who say, after the first bout of reforming, 'We have gone far enough![1]

When Geoffrey Blainey wrote these words, he was referring to the Reformation initiated by Luther. However, that passage could equally apply to the way Christian doctrines have emerged, developed and progressed throughout history. The aim of this thesis is to apply models from the philosophy of science, as a way of understanding the development of doctrine in Christianity. In the philosophy of science, in the 1960s, Kuhn wrote a treatise which challenged the status quo on the way science progresses.[2] He noted there are occasions where long-standing views are overthrown by factors external to science. The position adopted in this thesis is that theories from the philosophy of science have been underutilised in understanding the progress of Christian doctrines.

Ideas from the philosophy of science, in particular Kuhn's theory of scientific revolutions, are applied to the historical development of Christian doctrine. Initially, Kuhn's thoughts will be discussed in relation to previous work on the development of doctrine. But, there are limits to the application of Kuhn's work to doctrinal development and these will also be highlighted. The work of other philosophers of science, such as Larry Laudan[3] and Imre Lakatos[4], will also be examined to show how they can aid in the understanding of the development of Christian doctrine. Several specific doctrines will be analysed as well as the literature discussing how Christian doctrines develop. It is hoped that by drawing correspondences in the way science and doctrine progress and develop, this thesis proves to be another step toward facilitating the broader dialogue between theology and science.

[1] Geoffrey Blainey, *A Very Short History of the World*. (Camberwell, Victoria: Penguin Books, 2007), 245.
[2] Thomas Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, 2012).
[3] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London, UK: Routledge & Kegan Paul, 1977).
[4] Imre Lakatos, *The Methodology of Scientific Research Programmes Philosophical Papers: Volume 1*. Ed. by John Worrall and Gregory Currie (Cambridge: Cambridge University Press, 1980).

Doctrine can be defined as a particular moral or religious principle taught or advocated.[5] It also represents the set of teachings which define the core of the faith that emanates from the belief system of a specific group. Within this group, these teachings are usually assumed to be true and while the concepts of theology and doctrine are closely related, they are not the same. James Orr who noted both the distinction and commonality between both, wrote that doctrine "furnishes its basis and material to theology, which also is, in its way, doctrine — doctrine in elaborated form."[6] For instance, one of the key Christian doctrines is that of the Trinity, that is, the teaching that there is only one God existing as Father, Son and Spirit. The Son, sent by the Father, became flesh in the form of Jesus Christ to redeem sinners. To those who believe, the promises of the indwelling of the Holy Spirit and eternal salvation are granted. A theology can then be developed where God is the God of love (*agape*) due to his love in wanting to redeem human beings by sending his Son to atone for the sins of humanity. In this thesis, it is assumed that theology involves reflection, meditation and studying the things of God, whilst doctrine is the consequence of theology. Peter Toon explained doctrine "as a historically conditioned response by the Church to questions put to her at a particular time and place by the world or by her members."[7] Hence, theology is the framework by which questions about God are asked and doctrines can be thought of as the answers given to those questions. Alister McGrath has written that doctrine is related to tradition and community; it is dynamic, and seeks to tell the truth in a collective fashion.[8] In contrast, theology, according to McGrath, is more individualist and involves exploration of ideas without seeking to commit to them. George Lindbeck would agree that theology and doctrine are related though distinct. There might be doctrinal agreement, but there are differences in theological interpretation and explanation. On the other hand, different Christian denominations might share the same theological outlook, but disagree on the administration of sacraments.[9] More recently, John R. White writes in some detail on what doctrine, and in particular Christian doctrine, is. He notes:

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[5] Definition from Macquarie Dictionary, 4th Ed. 2006.
[6] James Orr, *The Progress of Dogma* (Grand Rapids: W. B. Eerdmans, 1960), 12-13.
[7] Peter Toon, *The Development of Doctrine in the Church*. (Grand Rapids: W. B. Eerdmans, 1979), 81. The reason for this assumption seems to better fit the chronological development of doctrines in Christianity. That is, reflection on God and the Scripture leads to new teachings, doctrines and propositional statements about God.
[8] Alister E. McGrath, *A Scientific Theology: Vol 3: Theory*. (San Francisco: T&T Clark Limited, 2003), 24-29.
[9] George A. Lindbeck, *The Nature of Doctrine* (Philadelphia: The Westminster Press, 1984), 76.

> On the one hand, "doctrine" simply means all that we know about what we should do, how we should think, how we should live, as Christians, indeed, in practice, this sense of doctrine is equivalent to revelation... The second sense of "doctrine" is narrower and focuses directly on propositions or propositional formulae... In this second sense of the term, doctrine is "true" in the sense in which a statement or proposition is said to be true.[10]

In this thesis, White's second use of the term is considered and it will be shown that Christian doctrines have often followed neither a smooth nor linearly progressive path, but have been characterised by specific events leading to a dramatic re-evaluation of previously held beliefs or doctrines.

In the New Testament, the word 'doctrine' appears in several instances. It is derived from the root word *didaskalia*[11] or *didaskolos*;[12] which means instruction or teaching. These words occur in many of Paul's letters, in particular in his two epistles to Timothy. In this context, doctrine has a special and prominent place in the Christian community. In 1 Timothy 4:13-16, the word appears twice as Paul instructs Timothy on its importance, for himself and his hearers. The passage reads:

> Until I come, devote yourself to the public reading of Scripture, to exhortation, to *teaching*. Do not neglect the gift you have, which was given you by prophecy when the council of elders laid their hands on you. Practice these things, immerse yourself in them so that all may see your progress. Keep a close watch on yourself and on the *teaching*. Persist in this, for by so doing you will save both yourself and your hearers.[13] [italics mine]

One of the earliest works about the nature of Christian doctrine, including what is or is not orthodox, is that by Vincent of Lèrins. Called the *Commonitorium*, it was written in the fifth century and followed the Council of Ephesus, under the pseudonym of Peregrinus. A Gaul by birth, Vincent was at times charged with semipelagianism. While he never asserted that Christian doctrine is to remain at a standstill, he maintained that progress was to be restricted to that which existed since antiquity, was universal and was consistent in content.[14] His famous rule is: "in the

[10] John R. White, "Doctrinal Development and the Philosophy of History: Cardinal Newman's Theory in the Light of Eric Voegelin's Philosophy", *American Catholic Philosophical Quarterly, Journal of the American Catholic Philosophical Association*, 83, no. 2, (2009): 212.
[11] Strong's Greek Concordance 1319.
[12] Strong's Greek Concordance 1320.
[13] 1Tim. 4:13-16 (English Standard Version). (Unless otherwise stated, all Bible citations come from the ESV).
[14] Philip Schaff and Henry Vance (Editors), *Nicene and Post-Nicene Fathers: Sulpitius Severus, Vincent of Lerins, John Cassian*, Series 2, Vol. 11. (T&T Clark: Edinburgh, Grand Rapids: W. B. Eerdmans Publishing), 129.

Catholic Church itself, all possible care must be taken, that we hold that faith which has been believed everywhere, always, by all."[15] Jaroslav Pelikan asserted that throughout most of Christian history, there has been reluctance, if not outright hostility, towards considering the possibility that doctrine might change.[16] Nevertheless, doctrinal change does take place and Pelikan proposed two different types of solutions to account for this phenomenon: the dogmatic and the dialectical. The dogmatic solution is described as: "…a treatment of the theologians and theologies of the past that measures them against criteria of orthodoxy formulated after their own time."[17] This type of approach naturally minimalises the influence and impact of culture so that "…what is there in the history of doctrine that changes may be regarded as heretical, what remains the same, as orthodox."[18] The dialectical approach allows for criticism and the existence of antithetical propositions representing complementary rather than contradictory views. These solutions underlie an implicit problem in discussing the development of doctrine: the belief that doctrines are sometimes thought of as divine or perhaps as having come down directly from heaven.[19] As Gonzalez notes:

> Doctrines change first and foremost because they are human. Doctrines are not divine; they are not even *from* God. They are *about* God and God's will. This does not make them irrelevant or unimportant. They are ways in which the church through the ages has sought to clarify what it has heard from God, regarding both God's nature and God's will for creation.[20]

Furthermore, doctrines can be sometimes thought as being synonymous with faith. But, as Gonzalez indicates: "…although doctrines have much to do with faith, and are an expression of faith, salvation is not by doctrine – not by the doctrine of the Trinity, nor by the inerrancy of Scripture, nor by any other doctrine."[21] It is understandable why there is some uneasiness when discussing the development of doctrine. It is human nature to try to understand and perfectly capture who God is, what God desires from human beings and, perhaps more perversely, to want to control God through the formulation of unchanging doctrines and propositions. Yet, almost

[15] *Ibid.*, 132.
[16] Jaroslav Pelikan, *Historical Theology: Continuity and Change in Christian Doctrine*. (London and New York: Hutchinson and Co, 1971).
[17] *Ibid.*, 21.
[18] *Ibid.*, 26.
[19] Justo L. Gonzalez, *A Concise History of Christian Doctrine.* (Abingdon Press: Nashville, 2005), 7.
[20] *Ibid.*, 7.
[21] *Ibid.*, 9.

paradoxically, fixed doctrines may also logically lead to the conclusion that humans rely on someone who is unchanging and outside of our control.

In 1845, John Henry Cardinal Newman took up the issue of doctrinal development when he wrote *An Essay on the Development of Christian Doctrine*. Relying on history and reason, Newman's partial motivation was to protect and defend Roman Catholic teaching from Anglican and other Protestant accusations that Rome was promoting corruptions and innovations. Newman recalled the work of the early Church Fathers in the development of doctrine. He also pointed out that some of the doctrinal developments Protestants rejected, such as the continuing virginity or the divinity of the Virgin Mary, were fundamentally no different to the doctrine of the Trinity, which Protestants accepted. Newman contended these doctrines were the outworking of reason to reveal that which was previously obscured by natural human limitations. That is, these doctrines were always present but had not been explicitly stated. Newman's *Essay* was initially largely unchallenged, but since the late 20th century, Protestant theologians in particular, have proposed alternative models to describe the way Christian doctrines develop.

Peter Toon, for instance, wrote *The Development of Doctrine in the Church* in 1978 from an Anglican perspective and argued against many of Newman's ideas.[22] Toon argued that the development of Christian doctrine does not progress in a slow linear fashion, independent of any context and factors external to it. Rather than distinguishing Christianity and its teachings from what is going on outside the church walls, Toon maintained doctrines often arise through crises and controversies with much struggle and polemical discourse.

Roger Olson follows a similar theme, but from a historiographical and chronological perspective.[23] He writes that through the ages, Christianity has constantly reshaped, reformulated and in some cases, regenerated new teachings to cope with specific situations that were of importance at the time. Factors such as politics, culture and the ruling religious authorities, as well as individuals with influence pushing their own agendas, have led the Church, on certain occasions, to clarify, repudiate or reaffirm truths which it believed were consistent with what is in the Scriptures. Using words such as *crisis* and *conflict*, Olson makes the point that the path to

[22] Peter Toon, *The Development of Doctrine in the Church*. (California: W. B. Eerdmans Publishing, 1979),
[23] Roger E. Olson, *The Story of Christian Theology.* (Leicester: Apollos, 1999).

doctrinal orthodoxy is seldom smooth and free of controversy. Although the specific movements, that on different occasions have prompted the Church to make its position clear, are sometimes varied, they have often resulted in more clearly defined doctrinal understandings. In recent times, few have written more on the subject of doctrinal development than Jaroslav Pelikan[24]. He critiques Newman without dismissing some of Roman Catholicism's distinctive doctrines such as those concerning the Virgin Mary. These and other theologians who have recently written on the development of doctrine are discussed in more detail throughout this thesis.

This study achieves two goals. Firstly, it is to serve as a type of apologetic. By noting that arguments can be made to show that the origins, progress and development of Christian doctrines can parallel those in science, an analogy can be made that the development of Christian doctrines can be viewed as *scientific*. Insights from the philosophy of science, in particular Kuhn's ideas, are discussed and methodically applied to the foundations of Christian doctrines thereby showing correspondences between scientific and doctrinal progress. Secondly, it is shown that models from the philosophy of science can be used to aid in understanding how Christian doctrines begin, develop and mature.[25] This thesis allows for a new way to gauge the current status of a given Christian doctrine. That is, by understanding the character of Christian doctrines at any given time in their development, it can be determined whether a particular doctrine is growing, decaying or is still immature.

[24] Pelikan has written very extensively in this subject authoring various articles and books on the subject and is arguably the leading author on the topic of doctrinal development.
[25] As an extension of this work, a doctrinal "maturity model" could be developed.

PART 1

CHAPTER 1

Background on the Philosophy of Science

Broadly understood, the philosophy of science is concerned with the assumptions, foundations, methods and implications of science, along with the use and merit of science. While the philosophy of science aims to determine if scientific results comprise of truth, it also delves into metaphysics, ontology and epistemology.[26] In ascertaining the validity of scientific reasoning, there are several ways forward. Induction, the process of deriving a general statement from an empirical observation or a series of observations was introduced by Francis Bacon in his book *Novum Organum* (1620) and has proved very useful for scientific progress, though it remains problematic to justify its process. Karl Popper rejected induction as a scientific tool. Regarded as one of the greatest philosophers of the 20th century, he favoured the ideal of empirical falsificationism. He dismissed the idea that theories can be conclusively proven; rather, the real test of science is whether a theory is capable of being falsified. He also advocated deduction, the process of deriving logical conclusions from universal statements through the use of syllogisms. A syllogism moves from a major premise to a minor one, and then to a conclusion. Popper described his philosophy as one of critical rationalism. He rejected empiricism and the classical observationalist-inductive methods and stated that theories are abstract in nature. He maintained that positive experimental results can never truly prove the validity of a scientific theory. Human knowledge is provisional at best and mimics natural selection so that a number of competing theories battle against each other with the least likely eventually abandoned. The theories that survive this process best are *fit* for survival. Popper believed these ideas not only applied to the sciences but also to other spheres of life so that theories are not meant to be proven infallibly true, but rather errors should be eliminated from them. Crucial to Popper's theory is the idea that the growth of science should be completely independent of the non-scientific context in

[26] Metaphysics can be defined as the branch of philosophy that deals with first principles, such as abstract concepts of being and knowing; ontology can be defined as a set of concepts in a subject area that shows their properties and the relations between them and epistemology can be defined as the theory of knowledge, such as understanding the distinction between justified belief and opinion.

which it is carried out. Culture, politics, history, tradition and other external factors and circumstances are all irrelevant or should be set aside when carrying out science.[27]

On the other hand, many disciplines, such as logic and mathematics, have to make assumptions in order for any progress to be made. Leading to the theory-dependence of observations, Thomas Kuhn stated that no hypothesis can be divorced from the theory upon which the observation is based. Kuhn was a physicist, historian and philosopher of science, who initially studied physics, but as a fellow in Harvard, he was given the freedom to move to history and philosophy of science, where he made his greatest contributions. He is primarily known for arguing that truth, or at least the notion of scientific truth, can never be measured solely by objective means.[28] Chris Mulherin also shares this idea when he writes that: "The practice of science is an intrinsically human pursuit full of the subjective judgments which that implies and it is dependent on a web of trust between scientists who are assumed to share personal moral commitments to truth and integrity."[29] That is, there is a consensus which arises within a practising scientific community. The growth of scientific knowledge is littered with competing theories vying for supremacy. In formulating objective knowledge, there remains some subjectivity which is underpinned by a scientist's or community's worldview. Two people using the same data might utilise theories which differ greatly in the interpretation of that data. Kuhn believed science is not only about perception. Interpretation also plays a part, thereby distinguishing and discerning the observation from the surrounding environment. For Kuhn, a theory was maintained but not determined exclusively by logical processes. For instance, two frameworks scientists utilise within scientific enquiry are foundationalism and coherentism. Foundationalism asserts that there are some basic statements that do not require justification, thereby preventing an infinite regress of arguments. Coherentism means that some statements can be justified because they fit into a bigger coherent whole.

[27] Karl Popper, *The Logic of Scientific Discovery*. (London and New York: Routledge, [1959] 2002).
[28] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012).
[29] Chris Mulherin in *God and Science in the Classroom and Pulpit,* by Buxton et al. (Melbourne: Mosaic Press, 2012), 25.

In explaining the way science relates to society, an interesting way of categorising this is provided by Mikael Stenmark.[30] For Stenmark, the issue is not whether science *is* formalist (science begins with a set of axioms and from there a formal system follows) or contextual (science is largely influenced by factors such as culture, society etc. under which it is carried out), but whether it *should* be either one or the other. He divides science and its relationship to the world within which it operates, into either value-free or value-directed. Value-free science maintains: "…[it] ought to be free from values in some specific ways."[31] Science should be autonomous, neutral, impartial, non-responsible, and non-normative. It needs to be impartial so that "moral judgments, ideological claims, or religious beliefs ought not to be among the grounds for accepting or rejecting theories within scientific enquiry."[32] Such ideals for science are what Popper advocated, and are in stark contrast to the view that science should be value-directed. In this case, science is seen as partisan and interwoven within it are ethics and morals which play a part in the way it should be conducted. For Christians engaging with science, Stenmark writes: "…[the] issue of non-impartial science concerns the narrower question whether…their Christian [or ideological or religious] convictions ought to be considered a proper part of scientific theory validations."[33] If science is value-directed then this would indicate strong support for Kuhn's view that science is unashamedly carried out within a worldview.

Recently, Peter Godfrey-Smith described three categories to explain how science obtains answers: empiricism, mathematics and social structure.[34] Empiricists believe that knowledge is gained by experience through the observation of the world. Godfrey-Smith argues that empiricists see the difference between science and everyday thinking as only a difference of detail and degree. Mathematics allows science to quantify and measure an observation thereby making it vital in empirical endeavours so that without it, empiricism is trivial. Social structures are vital for allowing the sharing and cooperation of information, thereby building on acquired knowledge.

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[30] Mikael Stenmark, "Rationality and Different Conceptions of Science," in *The Evolution of Rationality*, ed. F. LeRon Shults (Grand Rapids, MI: Wm. B. Eerdmans Publishing Co., 2006), 47-72.
[31] *Ibid.*, 49.
[32] *Ibid.*, 51.
[33] *Ibid.*, 61.
[34] Peter Godfrey-Smith, *Theory and Reality: An Introduction to the Philosophy of Science* (Chicago, IL: The University of Chicago Press, 2003), 8-13.

Imre Lakatos, who sought a middle ground between Popper and Kuhn, developed his treatise on research programmes to explain the growth of scientific knowledge.[35] A philosopher of science and mathematics, Lakatos aimed to adhere to Popper's falsificationism within empiricism while incorporating Kuhn's ideas on consensus. A Lakatosian research programme is determined by a set of guiding principles agreed upon by all those conducting research within a specific discipline. It resembles Kuhn's notion of a paradigm which an entire community accepts and is assumed to be true and/or self-evident, but with research guided by Popper's falsificationism or logic of discovery criterion. Unexpected results or anomalies do not signal a rejection of the initial assumptions, or *hard core* as Lakatos called it, but rather allow for the development of an auxiliary belt or auxiliary hypotheses. This auxiliary belt is comprised of theories which are formulated to explain results that may threaten the hard core, but can be dispensed with, if necessary.

A similar mediating position between Kuhn and Popper is also taken up by Larry Laudan. Instead of research programmes, he calls them *research traditions*.[36] He views science as a problem-solving activity which is able to resolve anomalies. However, he also aims to incorporate the history of science as well as its methodology. He sides with Kuhn by taking into account the contextual elements of science and their roles in the progress of science, but he does not go so far as to suggest differing worldviews are always incommensurable.[37] Laudan states that scientific growth is marked by two kinds of conceptual problems. Labelled as either internal or external, these are problems that are beyond the empirical and in fact speak about the foundations of the theories themselves.[38] Internal, conceptual problems arise where there is some vagueness or imprecision within the basic categories. A scientific theory is not discarded or dismissed in the presence of results or occurrences which appear inconsistent. Instead, these details are held in ‘quarantine’ until they are resolved or reconciled with current ideas. External conceptual problems exist when a theory is in conflict with another. Unlike Lakatos, Laudan believes that sometimes research effort might move away from an empirically-supported

[35] Imre Lakatos, *The Methodology of Scientific Research Programmes* (Cambridge, UK: Cambridge University Press, 1978).
[36] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth* (London, UK: Routledge & Kegan Paul, 1977).
[37] In this thesis, when context is discussed this is understood to be the circumstances that form the setting for an event, statement, or idea, and in terms of which it can be fully understood.
[38] *Ibid.*, 48-64.

tradition to one less supported. The reason might be that the less-supported tradition is better able to handle the anomalies of the better-supported tradition. The work of Larry Laudan is discussed in more detail in Chapter 8, as is the subject of anomalies which is discussed in Chapter 5.

In order for dialogue between models in the philosophy of science and the development of doctrine to be considered, it is assumed from the outset that this inter-disciplinary approach can only occur if a complementary model of the relationship between science and religion, in particular Christian religion, is assumed.

1.1 Interaction between the Philosophy of Science and the Development of Doctrine

Mark Worthing described models of how science and religion interact[39], as did Denis Alexander[40] and John Haught.[41] Alexander gave pros and cons for each model, Worthing gave a succinct summary of the models and Haught's descriptions are the most detailed, taking into account the historical perspectives of each. Worthing described three main models: the independent, conflict and complementary models. The independent model states that both science and religion answer completely different questions and do not share anything in common. They have domains which do not at all overlap and should not interact with one another. The acronym NOMA (Non-Overlapping Magisteria) is used to denote the view that science deals with facts and the *why* of things, whilst religion seeks to answer questions of meaning, morality and purpose. Coined by Stephen Jay Gould, NOMA represents a principled position on moral and intellectual grounds, where religion cannot make scientific claims and science cannot delve into questions on the existence of God and the supernatural.[42] The second model, the conflict world, arguably started in the Age of Enlightenment and is probably the most popular and recognised in secular societies. Commonly employed by both the so-called New Atheists and Young Earth Creationists, it asserts that most of modern science and religion are in

[39] Mark Worthing in *God and Science in the Classroom and Pulpit,* by Buxton et al. (Melbourne: Mosaic Press, 2012), 49-54.
[40] Denis Alexander "Models for Relating Science and Religion", *Faraday Paper 3* (2007): 1-4.
[41] John F. Haught, *Science and Religion: From Conflict to Conversation* (New Jersey: Paulist Press, 1995), 9-26.
[42] Stephen Jay Gould, "Nonoverlapping Magisteria", *Natural History* **106**, no. 2 (1997): 16-22.

conflict or in warfare with one another. Henry Schaefer notes that this problem has been going since at least the 1600s, with science attempting to answer questions in domains which perhaps it should not, resulting in answers which cannot be taken seriously.[43] C. S. Lewis recalled that very early in his life he had been told that science had disproved God and he believed it, though he knew nothing about science. He had made a faith commitment to science without even realising it. This view is still very prevalent nowadays. Richard Dawkins, one of a new wave of atheists, writes: "...one of the bad effects of religion is that it teaches us that it is a virtue to be satisfied with not understanding."[44] One of the characteristics of the conflict model is the presence of reductionism. As Paul Hiebert noted, the conflict type reduces all insights to a single level of analysis.[45] He described two types of reductionism: scientific and theological. Scientific reductionism believes that "…one of the fundamental assumptions on which many scientific theories are built is that science is true and religion is not."[46] Theological reductionism is the rejection of all scientific knowledge altogether and refuses to seek answers in science for fear it will lead them astray.[47]The third model is the complementary view on the relationship between science and faith. Like NOMA, science and religion are still seen to have different roles, but each is able to help and aid in the advancement of the other, though this does not mean that science is presupposed at the expense of faith and that everything must be reconciled to scientific theories. In talking about science and theology, Graham Buxton also agrees and states:

> The important point to recognize here is…that the two approaches need not imply conflict, because they are both, in different ways, tackling the same sort of questions. Both are attempting to get to grips with the nature of reality. The 'bottom-up' approach relates closely to the scientific way of looking at things…The 'top-down' approach presupposes some form of metaphysical framework – such as a Christian theistic framework – within which to interpret the nature of reality.[48]

[43] Henry F. Schaefer, *Science and Christianity: Conflict or Coherence*. (Watkinsville: The Apollos Trust, 2003), 8.
[44] Richard Dawkins, *The God Delusion*. (New York: Bantam Press, 2006), 152.
[45] Paul G. Hiebert, *Transforming Worldviews: An Anthropological Understanding of How People Change*. (Grand Rapids: Baker Academic, 2008), 72.
[46] *Ibid.,* 72.
[47] *Ibid.,* 73.
[48] Graham Buxton in *God and Science in the Classroom and Pulpit,* by Buxton et al. (Melbourne: Mosaic Press, 2012), 131.

Wolfhart Pannenberg, Hans Küng and Nancey Murphy have also recently written specifically on the way the philosophy of science can aid in understanding different aspects of Christian thought.

The first person to extensively apply a model from the philosophy of science to theology was Pannenberg.[49] He sought to apply Popper's ideas to theology and suggested theology is a science analogous to the natural, empirical sciences. He agreed with Popper's logical positivism in that particular instances cannot be used to prove general laws.[50] Unlike Karl Barth, Pannenberg did not contend that theology exists independently or has nothing in common with 'sciences' external to itself. For theology to be considered a science, there are two aspects which it must hold in unison: it has to seek to establish an external relation to other disciplines on the common basis of scientific character and it must consider its own internal coherence. Pannenberg insisted that the Christian tradition can only progress as a hypothesis which can be rigorously tested. [51] However, Pannenberg suggested that extensions must be made in order for it to be applied to theology. These are: 1) As important as falsifiability is, hypotheses are made within a greater context. They exist within an entire system of other hypotheses and theories. 2) The inadequacy of the falsifiability criterion to the historical disciplines. This criterion is applicable to generalised statements, but this is not how historical disciplines function. Unique historical events in Christian theology occur within a particular contextual meaning and Popper's model does not take that into account. 3) The implication of 2) is that philosophy can be considered a science and its hypotheses deal with reality as a whole. Pannenberg went further, noting that the ultimate meaning of reality is within the historical context in which it takes place.[52] Finally, Pannenberg noted that the idea of God "is possible through man's self-understanding and his relation to the world"[53]

[49] Wolfhart Pannenberg, *Theology and the Philosophy of Science* (London: Westminster Press, 1976).
[50] Russell Re Manning, ed., *The Oxford Handbook of Natural Theology* (Oxford, GB: Oxford University Press, 2013), "Natural Theology in the 20th Century."
[51] Gunther Wenz, *Introduction to Wolfhart Pannenberg's Systematic Theology* (Gottingen: Vandenhoeck & Ruprecht, 2012), 31-35.
[52] Edmund J. Dobbin "Pannenberg On Theological Method", *Catholic Theological Society of America Proceedings* 32 (1977): 202-20.
[53] Gunther Wenz, *Introduction to Wolfhart Pannenberg's Systematic Theology* (Gottingen: Vandenhoeck & Ruprecht, 2012), 34.

Küng was another significant theologian from the second half of the twentieth century who attempted to marry the philosophy of science with theology. However, instead of using the Popperian model of falsification, he applied Kuhn's idea of paradigm shifts to explain the history of theological development in Christianity.[54] Küng identified seven paradigm shifts in theology on a macro-level, each with their own cultural and discursive shifts.[55] These are: 1) the apocalyptic paradigm of primitive Christianity, 2) the Hellenistic paradigm of the patristic period, 3) the medieval Roman Catholic paradigm, 4) the Protestant (Reformation) paradigm, 5) the Protestant-Orthodox paradigm, 6) the modern Enlightenment paradigm, and 7) the emerging ecumenical paradigm. He also discussed six analogies between natural science and theology in relation to paradigm shifts.[56] Küng's applications of Kuhn's theories are further discussed in Chapter 4. These same paradigms, with the Reformation paradigm subsuming the Protestant-Orthodox paradigm, were then taken by David Bosch to also describe paradigms for missions.[57] Bosch asserted that mission, the attempt to spread the Gospel and evangelise within the culture and context of each of those paradigms, took on different flavours in the history of the Christian Church so that in each epoch, mission had specific characteristics.

Murphy took a different approach when applying models from the philosophy of science to theology in *Theology in the Age of Scientific Reasoning.*[58] She makes the claim that Pannenberg's theological method, even though it closely resembled that of a Lakatosian project, does not overthrow David Hume's agnostic and secular reconstruction of history. They are both coherent alternative theories within their respective worldviews.[59] Both agreed that a significant event can only be known with regards to its consequences. Hume concluded that historical accounts are not definitive, while Pannenberg argued that there must be some hypothesis of the future which must be coherent with the present. In this regard Pannenberg agreed with Popper

[54] Maurice Wiles in *The Making of Christian Doctrine* (1967) also mentions Thomas Kuhn as a model for proposing how doctrines might develop. Although the comparison does not go into any great depth, it seems this is the first time that development of Christian doctrine has been mentioned together with Kuhnian scientific revolutions.
[55] Hans Küng, *Theology for the Third Millennium: An Ecumenical View* (New York: Anchor Books, 1990), 128.
[56] Hans Küng, *Paradigm Change in Theology*, ed. Hans Küng and David Tracy, Tr. by. Margaret Kohl (New York: Crossroad, 1991), 11-29.
[57] David J. Bosch, *Transforming Mission: Paradigm Shifts in Theology of Mission*. (New York: Orbis Books, 1991).
[58] Nancey Murphy, *Theology in the Age of Scientific Reasoning* (New York: Cornell University Press, 1990), 183-99.
[59] *Ibid.*, 49.

that scientific knowledge is based on its anticipatory power; the belief that future testing will support the current theory.

Murphy sought to apply a Lakatosian research programme to theology and defined the hard core as the theologian's minimum judgment for how to sum up the relevant community's faith. This hard core, from a Christian perspective, is composed of the Trinitarian nature of God, God's holiness, and God's revelation in Jesus. Such a definition places a restraint on who is considered a Christian, but it provides a starting point and focus on what the research programme is about. This Lakatosian approach also means potential attacks on the hard core. These would be in the form of observations or results which appear to undermine the hard core. Collectively called the negative heuristic, its impact can be mitigated and placed in the category of auxiliary hypotheses (Murphy asserted a positive heuristic could take the form of a theologian taking all the different doctrinal loci in order to develop the programme). Each of these hypotheses can serve as mini-research programmes in their own right.

Clearly, there have been some discussions on the application of contextual approaches in the philosophy of science to Christian theology. This relationship is further elaborated in more detail in the next section.

CHAPTER 2

Contextual Approaches in the Dialogue between Theology and Science and their Implications for Understanding the Development of Doctrine

Science is commonly thought of as the description, prediction and understanding of natural phenomena. Hence, when describing science, this can also entail an evolving and non-stagnant process. The dialogue concerning Christian theology as science is not new. Worthing points out that since Augustine, theology has been viewed by many as wisdom because it deals with things eternal, while other disciplines can be considered as science because they deal with the finitely temporal.[60] The key discipline that analyses the way science progresses and develops is the philosophy of science. This is concerned with all the assumptions, foundations, methods, implications, uses, merits and for Kuhn also the external factors, of science. When the philosophy of science seeks to determine if scientific results comprise truth, it also delves into metaphysics, ontology and epistemology.

It is only relatively recently that the importance of the context (or non-theological factors by which theology is conducted) has been discussed. Angie Pears reviews the work of past authors who have explicitly aimed to understand how a particular community or culture has shaped Christian theology within its sphere of influence. Pears notes: "Concern with the contextual nature of theology is an emerging area for contemporary Christian theological concern and can be seen to be influencing a developing area of discussion, and raising questions about many areas of Christian practice, faith and understanding."[61]

Some previous philosophical rendezvous between science and theology, like Pannenberg's *Theology and the Philosophy of Science*, and Torrance's *Theological Science*, have noted the characteristics they might share, primarily from perspectives centred on foundationalism. This is defined as the set of philosophical theories resting on justified belief

[60] Mark W. Worthing, "Theology: Queen of the Sciences?" *Concordia Journal* (Oct 1994): 402-414.
[61] Angie Pears. *Doing Contextual Theology*. (London and New York: Routledge, 2010), 9. The authors Pears mentions in depth are: Robert Schreiter, Stephen Bevans, James Woodward and Stephen Pattison and Sigurd Bergmann.

and, as such, not geared towards considering the importance of context. In this study, a couple points need to be made. Firstly, when discussions about the relationship between science and theology are held, the historical context of science and its progress are also considered. These are aspects which properly belong to the philosophy of science. Through the examination of methodologies, traditions, experiences and ways of interpreting data contextually, models from science can be applied to theology. Secondly, if correspondences are made with theology these will filter down to doctrines which are arguably the result of theology. Hence one cannot discuss doctrine without also talking about the influence of studying the matters of God. In short, if theology and philosophy of science are both reflective in nature, then doctrine and models from the philosophy of science are their respective outworkings.

The role of the context in which theology and science are conducted and the subjective nature of explanations also belong to the discussion in determining correspondences between science and theology. Is theology objective, relative or somewhere in-between? If similarities and correspondences can be shown between science and theology then the task of applying models from the philosophy of science in order to understand theology becomes obvious. Two types of approach by which theology is conducted as a science are described and contrasted in this chapter: Foundational approaches define science as a completely rational and objective enterprise; while contextual approaches are relatively recent and view science as only being partially objective with other factors such as culture, politics, etc. also playing a part in science's progress. But first, some background and previous work in considering theology as a science are considered.

2.1 Defining Theology as a Science Through Foundationalism

Thomas F. Torrance provided a rational basis for the knowledge of God and discussed whether this knowledge can be thought of as a science.[62] He noted theology explicitly assumes that its object of study, God, interacts with and seeks to be in a relationship with the enquirer. Torrance does not assume an impersonal, deistic view of God. He believes natural theology must not be the foundation upon which divine revelation rests and asserts that theology must come up

[62] Thomas F. Torrance, *Theological Science.* (Edinburgh: T&T Clark Limited, [1969] 1996).

with its own philosophy before engaging with other disciplines. But if theology is to be considered a science then it "…must step in to help men refer their thoughts properly beyond themselves and back to God."[63] Torrance presupposes that communication between humanity and God is rational and intelligible.

Torrance describes some particular features that make theological activity unique. These include: the lordship of God, the personal nature of Jesus Christ and the medium by which theological enquiry takes place (i.e. among a physical Earth with flesh and blood human beings). Torrance also discusses the role of theology among the sciences. Although he acknowledges other disciplines enquire, discover or learn about "knowledge of contingent realities", theology invariably comes into conflict when a particular scientific discipline asserts authority over others leading to subjugation or irrelevance. Correspondence between theology and other sciences does not lie in transference of language or methodology but in the "relations subsisting between the knower and the object in one field of knowledge and that between the knower and object in another field of knowledge."[64] Thus science and theology share in the transcendental nature of the relationship between the researcher (or theologian) and the object of that explanation. For instance, the relationship between humanity and its environment involves how it is to be looked after, conservation, etc. and this should be the same in science and theology.

Torrance asserts God can be known in an objective manner by anybody through reason. He defines the process of gaining knowledge of God as similar to how knowledge is obtained in science: it is intelligible and accessible; it exists outside personal enquiry; and it is conceptual. Torrance states: "In the mind there are different modes of conception in accordance with differences in the nature of what is conceived."[65] Hence knowledge of an object is dependent on the object itself and its corresponding nature. How an abstract mathematical idea is conceived, for example, is different to conceiving the design of building a new house. Though governed and guided by rational thinking and devoid of speculation, how much one can know God is determined by the object itself. An open mind to God communicating to humanity is required, but such enquiries are limited to how much God wants to reveal himself to the person asking

[63] *Ibid.,* x.
[64] *Ibid.,* 283.
[65] *Ibid.,* 14.

about him. Torrance stresses that objectivity does not mean complete detachment or impartiality to the subject in question; rather that feelings should not distort one's thinking. Yet a person seeking to enquire is bound to only know as much as he is allowed to by the object.[66] In ascertaining knowledge of God from an objective perspective, Torrance lists a number of factors to bear in mind. Torrance lists a number of factors to bear in mind: 1. God is supreme and directs and guides people to himself; 2. God gives himself to people in a unique sense through grace; 3. God makes himself objective to people, without subjecting himself to anyone's own thinking or control; 4. God speaks to humans through his word; 5. God is self-giving and in action towards humanity; 6. God is engaged by redeeming his. . This allows for the possibility of having theological knowledge of God.[67] Other theologians argue that there are other ways of knowing God. According to Wolfhart Pannenberg, Mark Worthing notes that history is an indirect means of self-revelation of God.[68] Jürgen Moltmann writes that God can be experienced in all things because he "presupposes that there is a transcendence which is immanent in things and which can be inductively discovered."[69] Denis Edwards also writes in some detail different ways that God can be experienced. For instance, there is the communal gathering of different Christians in discipleship which allows the experience of God.[70] And he also discusses the possibility of a mystical experience with God – which he describes as prayer going beyond thoughts and words and becomes an experience of loving union with God.[71]

But, how does God give himself in order to be known and how is he truly received? Torrance answers this in three ways: the first is that Jesus Christ came as a human being to meet with us and to reveal his existence to humans; the second is that Jesus Christ has come to reconcile human creation to himself and the third is that Jesus Christ came to also conform humanity so that truth may be received objectively. Torrance rejects the notion of natural science being in opposition to theology, which if true, would move the natural sciences further away from theology as they progress and make advances.

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[66] *Ibid.,* 35.
[67] Curiously, Torrance does not mention Scripture as a source of how anybody can get to know God. Other theologians have argued other ways of knowing God.
[68] Mark W. Worthing, *Foundations and Functions of Theology as Universal Science: Theological Method and Apologetic Praxis in Wolfhart Pannenberg and Karl Rahner*, Theology 23. (Frankfurt: Peter Lang, 1996), 47-8.
[69] Jürgen Moltmann, *The Spirit of Life*, Tr. Margaret Kohl. (SCM Press, 1992), 35.
[70] Denis Edwards, *Human Experience of God.* (New York: Paulist Press 1983), 84.
[71] *Ibid.,* 86.

In order for theology to be considered a science, it is not unreasonable to believe that it must meet certain benchmarks. Pannenberg pointed to Scholz's minimum requirements of a science which theology meets. These are:

- The requirement of formal consistency. For theology, this means that theological statements have a cognitive character and make assertions about a truth-claim.
- The requirement of coherence. Here, theology's object is to be unitary and demands that theological statements relate to a single area of investigation.
- The requirement of verifiability. Theological statements cannot be verifiable directly against the object in question.[72]

Pannenberg also discussed whether theology is a science. He attributed scientific status to theology because it is able to be tested as a series of hypotheses. Theological statements are analogous to scientific statements which exist within a framework of theoretical networks and with experience being given lesser weighting than propositions. Pannenberg made the explicit link between his approach to Torrance's scientific theology and Popper's ideas. He believed, for instance, that: "all experience of meaning is hypothetical in the sense of the Popperian principle of 'trial and error' to the extent that it is based on an *anticipation* of the totality of reality which is still *incomplete* in the process of reality."[73] On this basis Pannenberg was able to list several criteria for determining when theological statements have not been substantiated. Theological statements are not substantiated when:

- they are intended as hypotheses about the implications of the Israelite-Christian faith but cannot be shown to express implications of biblical tradition (even when changes in experience are allowed for);
- they have no connection, which is cashable in terms of present experience, with reality as a whole and this is shown by the relationship to the current state of

[72] *Ibid.*, 26-30.
[73] Wolfhart Pannenberg, *Theology and the Philosophy of Science*, Tr. by Francis McDonagh. (The Westminster Press, Philadelphia, 1976), 333.

philosophical enquiry (in this case theological statements are transferred to the critical categories of mythical, legendary and ideological);

- they are incapable of being integrated with the appropriate area of experience or no attempt is made to integrate them (e.g. in the doctrine of the church as it relates to the church's role in society);

- their explanatory force is inadequate to the stage reached in theological discussion, i.e. when it does not equal the interpretative force of existing hypotheses and does not overcome limitations of those which emerge in discussion.[74]

Theological statements have to be part of a bigger whole, meaning they cannot exist in isolation from the rest of theology. Preceding Torrance, Pannenberg also argued that these statements must give a "coherent interpretation of the data of the religious tradition and the systems of meaning of present experience."[75]

Pannenberg was among the first twentieth century theologians to seriously consider theology as science.[76] In proposing a quasi-ontological argument reminiscent of Anselm, Pannenberg rhetorically asked: "How can we conceive of a totality without conceiving of something outside it?"[77] He compared this idea to Greek philosophy which conceived of "reality as a whole as a cosmos or universe, with God as the origin or arch of this cosmos."[78] The crux of Pannenberg's argument is based on God lying outside all of reality. But given humanity does not lie outside this reality, there is a gulf or a limitation in the concept of what reality means for humanity. Employing Greek philosophy, there is an *underevaluation* of humanity's relation to the universal forms. There is a *lacking* within any person which is due to humanity's finiteness. This places humanity in a constant state of expectation and anticipation so that there is an insurmountable gap in the knowledge that humans possess in comparison to God. Although

[74] *Ibid.*, 344-5.
[75] *Ibid.*, 344.
[76] Mark W. Worthing, *Foundations and Functions of Theology as Universal Science: Theological Method and Apologetic Praxis in Wolfhart Pannenberg and Karl Rahner*, Theology 23. (Frankfurt: Peter Lang, 1996), 25.
[77] Wolfhart Pannenberg, *Theology and the Philosophy of Science* , Tr. by Francis McDonagh. (The Westminster Press, Philadelphia, 1976), 305.
[78] *Ibid.*, 305.

experience is always a repository of humanity's knowledge of reality, this can never be fully exhausted. Using the Popperian model of falsification and with God as the all-determining source of reality, Pannenberg's aim was to show that God is implicitly evidenced through revelation in history. If there is indeed a God, then there should be proofs of his existence through evidences which are present in the created order, i.e. "The word 'God' is to be understood as referring to an all-determining reality, substantiation of talk about God requires that everything which exists should be shown to be a trace of the divine reality."[79]

Pannenberg did not believe that objects exist in isolation, but rather there is an *unbroken continuity* in the connection between theology and science. This is not about describing particulars or facts about an object to the exclusion of particulars or facts about another object but about reality in general. He noted, however, that a theology of Christianity

> …would at least need to be based on a fundamental theology…enlargement of the field of scientific theology discussed here is not only theoretically possible, but could also be a practical possibility in the future through an intensification of exchange and competition between different human cultures and religions and could have corresponding effects on the scientific organization of theology even in the west.[80]

While Pannenberg acknowledged the subjective nature of the participant, he also noted anticipation and hypothesis-making are inexorably linked. Although God can only be accessible to his own actions, Pannenberg asserted that "this does not alter the fact that this anticipatory character of the experience of the totality of reality as a totality of meaning makes the historicality of the self-revelation of the divine reality intelligible."[81] Given the gulf between humanity and the totality of God as the all-determining reality, from a human being's point of view this totality must be anticipated. A participant's presuppositions should serve as a heuristic and not as probative with regard to theological statements. This would then give a warning against claiming personal convictions as synonymous with arguments that are intersubjectively valid.[82]

[79] *Ibid.*, 303.
[80] *Ibid.*, 325.
[81] *Ibid.*, 310-311.
[82] *Ibid.*, 320-321.

Pannenberg did not deny that experience plays a role in gaining a fuller/more complete knowledge of reality. However, this element of subjectivity is formulated hypothetically to be refuted or verified. The link with historical self-revelation can now be made: Reality is linked with meaning accessible to anticipation which then links to the historic characteristic of the self-revelation of the divine reality.[83] Though Pannenberg defined religion as the place where experiences of God's self-revelation are articulated in the totality of the world's reality, he admits the value of individual experience. However, this is related to a socially organised religion. The collective total and individual attitudes are elements in the history of religion, but a problem arises if all experiences are treated the same way. Qualitatively, this means there is no difference from one experience to the next; no qualification demarcates one experience above or below another. And yet throughout the history of Christianity there have been some experiences that have helped shaped truths about God. The personal inner struggles of people such as Athanasius, Augustine and Martin Luther have left their inedible mark on Christian doctrine. In theology, as described by Pannenberg, all experiences are either always related to socially organised religions or "they acquire the status of intersubjectively valid truth in which the distinctness of the divine reality from individuals are expressed."[84] Pannenberg's reluctance to distinguish between different types of experiences contradicts the origin of these schisms just mentioned. Some experiences, more than others, have clearly played a crucial part in Christian history. Furthermore, the reason they were so pivotal was because such personal experiences, regardless of their basis or justification, were compelling enough to convince a significant number of people of their veracity.

Notwithstanding this, the falsification method employed by Pannenberg has major consequences for theology. If crucial statements like the divinity of Christ are shown to be false, then this automatically takes religion outside merely "faith" and into the domain of reason and probity.[85] Pannenberg argued that "if the reality of God cannot be distinguished from the

[83] *Ibid.*, 311.
[84] *Ibid.*, 313.
[85] Mark W. Worthing, *Foundations and Functions of Theology as Universal Science: Theological Method and Apologetic Praxis in Wolfhart Pannenberg and Karl Rahner*, Theology 23. (Frankfurt: Peter Lang, 1996), 40.

assertions of believers and theologians regarding it, such assertions can no longer be taken seriously as assertions, but rather look like fictions created by believers and theologians."[86]

However, part of a scientific theology must involve a serious consideration of the experiences encountered by the believer and a way of differentiating among these experiences. As Torrance noted, to eliminate humanity from the study of God in order to eliminate subjectivity is not objectivity. The role of a scientific theology is to examine the communications expressed in religion about divine reality and how that connects to the experiences of religious people.[87] This seems to be in stark contrast to Karl Barth's view where he did not see the role of theology as one in which it should have anything to do with other sciences. As Worthing notes, Barth was convinced that subjecting theological statements to verification would betray theology's main axiom, revelation.[88] This fideistic view of theology is not shared by Pannenberg who stated: "it is possible to verify theological statements, even in their relation to their claim of truth."[89]

Pannenberg, in giving a Popperian method for thinking of theology as a science, believed that if God is really God, theology must step outside of itself and seek to integrate other cultures and traditions. God's work must be able to be seen everywhere. In allowing for the subjective nature of hypotheses to be verified or refuted, God must be able to be observed outside the personal convictions of believers and theologians. However, Pannenberg acknowledged a person is not a *tabula rasa,* and so studies are always approached with preconceived ideas or presuppositions. But, as noted previously, particular affections should be seen as heuristic and not probative. But a question that immediately springs to mind is: Is it ever the case that one is able to clearly demarcate one's presuppositions to the task at hand? Michael Polanyi, who also described an apparent tension in accepting a strict Popperian model, noted that "the reflecting person is then caught in an insoluble conflict between a demand for an impersonality which

[86] Wolfhart Pannenberg, *Theology and the Philosophy of Science,* Tr. by Francis McDonagh. (The Westminster Press, Philadelphia, 1976), 329.
[87] *Ibid.,* 325.
[88] Mark W. Worthing, *Foundations and Functions of Theology as Universal Science: Theological Method and Apologetic Praxis in Wolfhart Pannenberg and Karl Rahner*, Theology 23 (Frankfurt: Peter Lang, 1996), 18.
[89] Wolfhart Pannenberg, *Theology and the Philosophy of Science* ,Tr. by Francis McDonagh . (The Westminster Press, Philadelphia, 1976), 343.

would discredit all commitment and an urge to make up his mind which drives him to recommit himself."[90]

In calling for dialogue outside of itself and opening up to being intersubjectively criticised, the call to be dispassionate from the claims being made and to be "objective" in its assessment of what a person proposes is at odds with the declarative statement being made. That is, the theologian or professing believer is not being ambiguous, he or she is stating something of what they believe to be true. In the words of Polanyi, a commitment is being made.[91]

The possible falsification of certain Christian core tenets is risky, but in taking it outside the merely subjective, Pannenberg challenged the claims that Christianity is devoid of reason or any historical basis.

An interesting commentary on Pannenberg's methodology is made by Wentzel Van Huyssteen. Though one typically associates Pannenberg as aligning with Popper's model of falsificationism, Van Huyssteen argues that Pannenberg also used Thomas Kuhn's theories. Van Huyssteen writes:

> Pannenberg argues that Popper's concept of theory-ladenness of all observation, and his acknowledgment of the conventional nature of so-called objective statements, must ultimately lead to failure in Popper's attempts to draw sharp distinctions between scientific and metaphysical statements. In Pannenberg's view, scientific statements are thus in themselves ultimately founded on general worldviews of a profoundly philosophical and/or religious nature.[92]

Pannenberg sought to give theology a rigorous scientific status through the use of a critical realist approach. Like Popper and the implications of his views for scientific progress toward understanding natural laws, Pannenberg did not believe the veracity of theological claims can ever be fully confirmed (or falsified). His theology integrates religious traditions, the present experience of totality, and previously accepted philosophical arguments, namely Popper's. Again, in relegating experiences to a concern that should be resolved or explained within the

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[90] Michael Polanyi, *Personal Knowledge* (London: Routledge, 1998), 304. This book was first published in 1958. There has been much discussion on how much, Kuhn was indebted to Polanyi for many of the ideas in *The Structures of Scientific Revolutions* and *The Essential Tension*. A contemporary critique on the similarities and differences of both writers' theories is given by Struan Jacobs in "Michael Polanyi and Thomas Kuhn: Priority and Credit", *Tradition & Discovery: The Polanyi Society Periodical*, (33)2, 25-36, 2006.
[91] *Ibid.*, 304.
[92] J. Wentzel Van Huyssteen. *Postfoundationalist Theology* (Grand Rapids: W. B. Eerdmans, 1997), 59.

community, Pannenberg undermined the possibility of some personal experiences carrying greater weight than others. He also, perhaps unwittingly, did not allow for the importance that social and cultural pressures might have in theology and subsequently their effect in the formation of doctrine. Not only does this make it harder to explain or understand why certain orthodox doctrines have remained hidden from Christianity for so long, but also makes it difficult to see how they are to be applied in different contexts and situations. These drawbacks call for the consideration of contextual approaches which science and theology might share.

In describing the different ways that knowledge, truth and morality may be known, there exist two extremes. Foundationalism asserts that knowledge and justified belief exist on a foundation of non-inferential knowledge while relativism maintains that truth exists in relation to culture, society and politics. Philip Clayton proposed an approach which takes theology beyond both foundationalism and relativism.[93] He suggests that for theology to move past merely social reconstructions and into the realm of rational discourse, four things must occur, namely:

> The free and public exchange of ideas, use and acknowledgment of resources, reasoned and criticizable discussion of other's ideas, and ideals of clarity, objectivity and criticizability…these general characteristics must characterize each of the explanatory disciplines, including theology.[94]

Clayton wrote that there are particular problems inherent in describing theology as a science. Unlike other scientific endeavours, theology must satisfy both the demands of an academic discipline and its duties to the church. There are methodological dilemmas it must also consider. For instance, there is the problem of the struggle between functional and semantic approaches to religious belief. Functional approaches describe the dogmas operating within communities but independent of the content of the belief. The truth or falsity of a religion is secondary and the sociological aspects of a religion are primarily considered, which can lead to a sort of conventionalism. As William Dean notes: "religious conventions about the meaning of the whole can be grounded in a society's spiritual culture, rather than in extrahistorical foundation."[95]

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[93] Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion*. (New Haven and London: Yale University Press, 1989), 150-67.
[94] *Ibid.,* 153.
[95] William D. Dean, *The Religious Critic in American Culture.* (Albany, NY: State University of New York Press, 1994), 135.

Similar to Pannenberg, Clayton believed that for theology to be considered a science, it must meet a number of requirements. Firstly, it must be open to intersubjective examination and criticism. Secondly, this scrutiny must be open to anybody and no restrictions are to be put upon anyone wishing to investigate the claims of theology. This means no solution is outside the bounds of enquiry. Though believers may have beliefs without arguments, these cannot be considered of epistemic merit; all beliefs must be treated as hypotheses. The bases of the methodology for theology to be considered a science are:

- Theological explanations must be intersubjectively criticisable[96].
- Results of research in other areas are reasonable. The theologian must take seriously the objections from natural and social scientists, historians, philosophers.
- If basic theological beliefs are questioned, a warrant for their validity must be provided.
- Theology's claims are to be taken as hypothetical and open to revision.[97]

2.2 Defining Theology as a Science through Contextual Approaches

Another discussion is how theology should be understood as a science. Arguments centre on the use of models from disciplines which aim to understand or frame different aspects of science, such as its historicity, progress, limitations, etc. Since theology is the study of a God who created everything, then it is incredulous to think theology can remain isolated and derive all theological truths, including doctrines, apart from all other disciplines. Further, there is a bigger challenge for Christianity in what George Lindbeck called 'postliberal antifoundationalism.' Rather than asserting universal norms of reasonableness, theology should seek to determine "whether these can be formulated in some neutral, framework-independent language."[98] This is not only a relevant academic question, but also a pertinent question for evangelicalism since it argues for a need to express intelligibility and possible truths of the

[96] The term intersubjective involves the concept of a certain universality and testability aspect for an explanation.
[97] Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion.* (New Haven, London: Yale University Press, 1989), 161-2.
[98] George A. Lindbeck, *The Nature of Doctrine*. (Philadelphia: The Westminster Press, 1984), 130.

religious message to those who no longer understand or know traditional words.[99] Robert John Russell and Kirk Wegter-McNelly believe that Lindbeck's insights show that both scientific and religious communities "organize observation and experience through models that are analogical, extensive, coherent, symbolic, and expressed through metaphors."[100]

Similarly, Van Huyssteen proposes a postfoundationalist approach. He writes that such an option "will reveal the shared rational resources of theology and the sciences, while at the same time creating a space for the very distinct social knowledge claims of each of these reasoning strategies."[101] Beginning with The Enlightenment, modernity declared human subjects as rational and free. It was a foundation which centred on humanity as the determining source of reality. It also allowed for the development of distinct spheres of knowledge and practices.[102] It is in this environment that science with rigid methodologies established itself as the bastion of rationality and pushed religion aside as mythical symbolism and ultimately irrelevant to knowledge. Popper's philosophy of science is one such advocate of objective truth. Crediting Tarski, Popper concluded that "the idea of objective truth as correspondence to the facts – appears to be accepted with confidence by all who understand it."[103] On the other side of the spectrum, there is Postmodernism. While it allows epistemology to account for the nuances present across cultures, domains and societies, it also challenges the notion of progress, that is, the presence of any metanarratives and grand truth statements or claims.[104] The positivist attitude of science as objective and true has been replaced by a feeling that no unifying or underlying common theme can be found to join different areas of enquiry. Another problem is that even with postmodernism, there appears to be no general consensus as to what postmodern philosophy really is about. While it is argued that science embraces rigidity and fixed authority, postmodernism instead values imagination and freedom from constraints.[105] Paul Feyerabend, a philosopher of science who went even further than Kuhn and embraced epistemological

[99] *Ibid.,* 132.
[100] Robert John Russell and Kirk Wegter-McNelly in *Bridging Science and Religion*, Ed by Ted Peters and Gaymon Bennett. (Minneapolis: Fortress Press, 2010), 24.
[101] J. Wentzel Van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*. (Grand Rapids & Cambridge: W. B. Eerdmans, 1999), 8.
[102] *Ibid.,*23.
[103] Karl Popper, *Conjectures and Refutations.* (London and New York: Routledge, [1959] 2002), 304.
[104] J. Wentzel Van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*. (Grand Rapids & Cambridge: W. B. Eerdmans, 1999), 35.
[105] *Ibid.,*42.

anarchism, noted the necessity to create theories when he said that "the invention of alternatives to the view at the centre of discussion constitutes an essential part of the empirical method."[106]

The apparent dichotomy between creativity and fixity is not restricted to the discourse between science and theology, but also exists among the different disciplines in science with positivism elevating the natural above the social sciences. Postmodernism also presents its own set of challenges. In embracing pluralism, dialogue between science and theology might be impossible because by accepting all, discourse, ironically, becomes untenable.

For example, nonfoundational theologies are a reaction against modernity and stress a rationality that is solely localised and context-dependant. Specifically, Van Huyssteen briefly recounts the work of Kuhn, Quine and Rorty who have all in recent times challenged the traditional epistemological notion of foundational truth.[107] He also discusses narrative theologies and writes that they have "been used to explain human action, to articulate the structures of human consciousness, to depict strategies of reading, to account for the historical development of traditions, and to provide an alternative to foundationalist and/or scientific epistemologies."[108] He points out that such an approach could easily descend to theology becoming isolationist by embracing a type of fideism which places it outside of interdisciplinarity discourse. From a Kuhnian perspective, this can lead to a type of incommensurability between theology and other disciplines. Further, it would stand to reason that the longer this shutting off from the rest of the world lasts, the less theology will have in common with other areas of inquiry. Kuhn stated: "As these new subdisciplines develop, each with its own achievements, on which research is modeled; it becomes increasingly difficult for practitioners of one to understand what the other is doing."[109]

By considering an analogy with the natural sciences, an immediate implication of applying Kuhn's ideas to doctrinal development arises in the form of the following provocative question by Van Huyssteen: "Would it be possible to actually epistemically extend a

[106]Paul Feyerabend, *Against Method*, 3rd ed. (London and New York: Verso, 1993), 29.
[107] J. Wentzel Van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*. (Grand Rapids & Cambridge: W. B. Eerdmans, 1999), 64.
[108] *Ibid.*,70.
[109] Thomas Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), xxxii-xxxiii.

sophisticated form of foundationalism over a whole conceptual network of nonfoundationalist beliefs?"[110] Van Huyssteen does not seem to think so. In carefully discussing Murphy's Lakatosian theology, he mainly portrays it in a favourable light, but does not equate correspondence with interdisciplinarity. He poses another interesting question: "Does the fact that all sciences, including now ethics and theology, ultimately share the structural similarity of a rather normative Lakatosian concept of rationality really qualify as true interdisciplinarity reflection?"[111] For Van Huyssteen, a postfoundational theology does not go into the extremes of either modernity or postmodernity but rather asserts "as theologians, we should be able to enter the pluralist, cross-disciplinary conversation with our full personal convictions, while at the same time being theoretically empowered to step beyond the limitations and boundaries of our own local, disciplinary contexts." [112] He also tentatively believes that Kuhn's ideas might be useful to theology when he writes:

> For systematic theology, Kuhn's major contribution may well be the insight that scientific knowledge does not accumulate through the gradual addition of new elements to an existing body of knowledge; on the contrary, scientific knowledge shows no such logical growth but develops by shocks, through radical breaks or revolutions in which one vision has to make way for another.[113]

Van Huyssteen, however, disagrees with Kuhn's notion that rational decision making is achieved through consensus of a practicing community. He references Brown in noting that a decision might be rational even though the group might not agree.[114] There might also be the situation of a visionary who is making a rational decision which the majority cannot see. Thus, there might not be a currently existing representative rational community.[115] But Van Huyssteen seems to concur with Kuhn in highlighting the importance of context when comparing theories, and at the same time also outlines what he considers to be adequate conditions for rational decision making. Van Huyssteen notes that this is the case when evaluating theories by asking: "Within a specific context and in view of a distinct problem, is this theory, better than that one,

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[110] J. Wentzel Van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*, *(*Grand Rapids & Cambridge: W. B. Eerdmans, 1999),72.
[111] *Ibid.*,104.
[112] *Ibid.*,108.
[113] Wentzel Van Huyssteen, *Theology and the Justification of Faith*, Tr. by H. F. Snijders (Grand Rapids, MI: W. B. Eerdmans, 1989), 63.
[114] J. Wentzel Van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*, *(*Grand Rapids & Cambridge: W. B. Eerdmans, 1999), 150.
[115] *Ibid.*, 151.

or is this doctrine the best – experientially and theoretically – among available options?"[116] In speaking of doctrine, Van Huyssteen appears to give a nod to Küng's macro, meso and micro paradigms when he states: "theories can refer to very *specific* sets of related doctrines, or to much more *general* sets of doctrines and assumptions".[117] Van Huyssteen answers his own question by embracing Laudan's research traditions so that a theory should be favoured if it has the highest problem-solving ability for a specific domain within a specific context.[118]

Van Huyssteen also mentions the role that experiences play and how they relate to rationality. He notes that even here, any difference between the sciences and theology is merely one of degree. That is, "they all grapple with what we perceive as real aspects of our *experience*".[119] In both science and theology there is a relation between the enquirer and the object of enquiry so that any knowledge gained can only take place through interpreted experience. This does not take place in isolation from everyone else because the search for knowledge always occurs within the social context of a community. The importance of experience is also shared by Kuhn in the acceptance of scientific theories.[120] The implication from Van Huyssteen is that intelligibility assumes a receptive audience with the expertise and skills to evaluate, understand and challenge new theories.[121] Frequently, this is how the Christian Church has decided whether a doctrine was orthodox or heretical. There were established councils which studied and carefully analysed the different sides of the argument before making a decision. As demonstrated in Chapter 6, this was the case for the doctrine of the Trinity and the doctrine of original sin.

Any knowledge gained is nevertheless always done through interpreted experience so that "the stories of our lives, of our traditions, our religious faiths, our sciences, and our theologies are therefore *about* something."[122] This means that in a postfoundationalist view "no

[116] *Ibid.*,170.
[117] *Ibid.*,170.
[118] *Ibid.*,172.
[119] J. Wentzel Van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*, (Grand Rapids & Cambridge: W. B. Eerdmans, 1999), 181.
[120] Thomas Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 176.
[121] J. Wentzel Van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*, (Grand Rapids & Cambridge: W. B. Eerdmans, 1999), 184-5.
[122] *Ibid.*, 212.

generic, universal claims for realism…can be made for the domains of our intellectual enquiry in general."[123] This seems to be in accord with McGrath who criticises Pannenberg by writing:

> Pannenberg has failed to meet the most fundamental criticism which may be directed against this approach – namely, that it is possible for two observers to watch the same event, and attribute quite different interpretations to it, both of which may be regarded as warranted on the basis of their specific circumstances.[124]

The implication is that in Pannenberg's model, faith and illumination by the Holy Spirit are not needed; only a willingness to see things more clearly.[125] Kuhn also contended that there are a myriad of competing theories of truth.[126] However, Van Huyssteen does not entirely dismiss critical realism when he writes: "…its [modest realism] credibility and acceptance as a presupposed worldview can be determined only on experiential and pragmatic grounds, and thus for good reasons that humans still make responsible judgments in favor of the reality they believe in."[127] For Van Huyssteen, valid religious experience can only be found within the individual's rational judgment when this (religious experience) can be accounted for in religious terms.[128] This mirrors Pannenberg's Popperian approach to theology when he states: "The method of theology of religion and religions is to test religious traditions by the standard of their own understanding of the divine reality."[129] However, unlike Pannenberg, Van Huyssteen's refusal to validate the existence of any universal claims is a notable point of difference between both theologians' views.

Harold Schilling also argued that science and religion share many features.[130] Although his work in this subject is over fifty years old, he provided a very insightful diagram that explains the relationship between science and religion. He asserted they both have a threefold and circular

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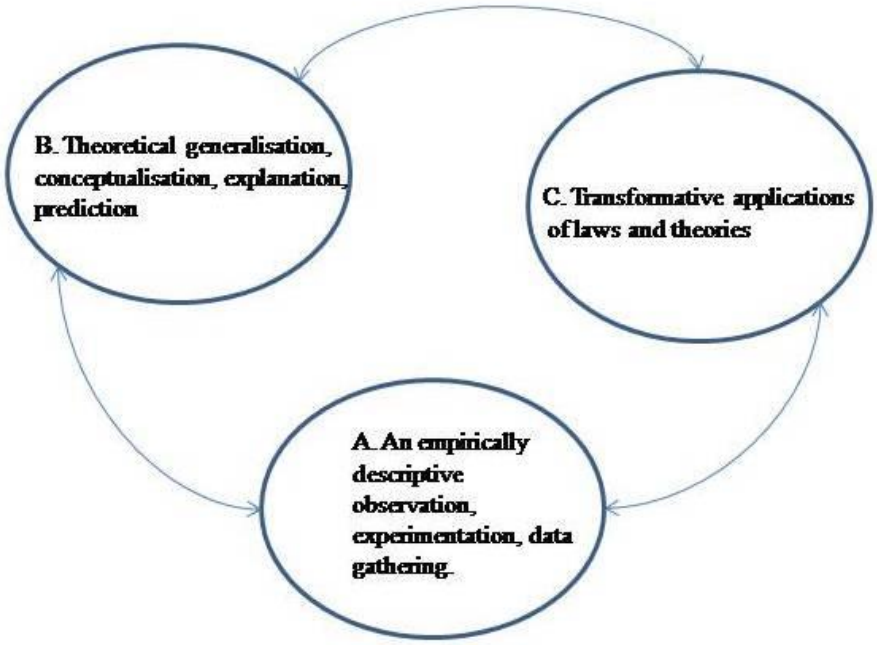
[123] *Ibid.*, 213.
[124] Alister E. McGrath, *A Scientific Theology, vol. 3, Theory* (London and New York: T&T Clark, 2003), 172. It could be argued this is the reason why qualitative research exists.
[125] *Ibid.*, 171.
[126] Thomas Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 19.
[127] J. Wentzel Van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*, (Grand Rapids & Cambridge: W. B. Eerdmans, 1999), 213.
[128] *Ibid.*, 232.
[129] Wolfhart Pannenberg, *Theology and the Philosophy of Science* (Tr. by Francis McDonagh, The Westminster Press, Philadelphia, 1976), 320.
[130] Harold K. Schilling, *Science and Religion: An Interpretation of Two Communities*, (George Allen and Unwin, Ltd 1962), 67-87.

nature. He illustrated this concept by representing three interconnected and mutually causative circles to explain both science and religion's mechanisms.



The first circle is empirically descriptive; data is gathered through observation and experimentation. The second circle is the theoretical. Here, generalisations and explanatory models describe the analysis of data. Predictions can also be made so the theories' relationship to the first data-gathering circle is a two-way process. The data is affected through the theoretical paradigms from which they are being observed. The third circle is labelled as transformative and describes the application of the laws and theories from the previous circle. It transforms and changes the natural and cultural environment through the direct implementation of these laws. The influence of the second circle to it is obvious, however the third circle also influences the second theoretical circle because the scientist wishes, and often struggles, to generalise the changes in a particular setting, meaning more data-gathering is required. Yet this process might have an effect on the environment from which the data is gathered. Analogously, here, theology is the second circle. It theorises and conceptualises the faith experience of the community. The third circle attempts to take theology and apply it to the real and practical domains of life like ethics and morality in society. The role of theology is a dual one: it reacts, generalises and

criticises the experiences of the faith community and also elaborates the implications of these experiences for life and work.

For Schilling, an important role in theology is to act as a go-between for experiences and insights. This is done by interpreting their significance and how these are to be generalised for succeeding generations, different cultures and different situations. The task of theology is to distil the truths of a belief system and show their relationship to the praxis. At all times, in all places, and for all people, theology aims to answer the question of what it means to love God and one's neighbour with all of one's heart, soul and mind. In explaining the link between theology and the transformative, Schilling believed that theology's role is to analyse and detail the struggles and trials that plague humanity and how they are to be dealt with and managed in this lifetime.[131] Such an approach allows for doctrines to be continually rephrased and reformulated to audiences according to their current situations and areas of concern.

Ian Barbour lists several more similarities between theology and science. Science, like theology, is "acknowledged to be a historical and culturally conditioned enterprise."[132] Barbour discusses the different ways through which historical explanations are given, and also claims that subjectivity and relativism are only present in historical enquiry and not scientific enquiry. The difference is at most one of degree. Barbour echoes the work of Küng when he states that: "…paradigms and theories influence scientific data. Paradigms and beliefs even more decisively shape the interpretation of religious experience and religious stories."[133] Barbour makes three succinct and direct links with Kuhn. These are:

- All data are paradigm-dependent, but there are data on which adherent or rival paradigms can agree; science occurs within a presupposed paradigm.

- Paradigms are resistant to falsification by data, but data cumulatively affects the acceptability of a paradigm. This is related to the empirical and states that no one single piece of data determines the rejection of a paradigm.

[131] *Ibid.,* 82.
[132] Ian G. Barbour, *Religion and Science* (San Francisco: HarperCollins, 1997), 137.
[133] *Ibid.,* 144.

- There are no rules for paradigm choice, but there are shared criteria for judgment in evaluating paradigms. Rationality is not evident in deciding what paradigm to choose.[134]

Theology as a science must not only understand a religious community's beliefs but also be able to articulate the way in which these beliefs are understood externally. A claim in theology is evident, but Clayton also made the case for this in the natural sciences. He recalled the formalist approach and lists three characteristics. Firstly, the context of justification cannot be separated from discovery. Secondly, explanation proceeds from universal laws and predefined boundary conditions. Thirdly, it is possible to formulate self-contained statements which can be intersubjectively tested. However, Clayton pointed out that the formalist approach is not a true representation of the way science operates because the key to its success is the separation of observation and theory. Clayton argued that the plurality of meanings that Hempel found led him to admit the existence of epistemic relativity in explanation. Clayton identified at least three types of explanations in theology. These are:

- Private explanations. This is individualistic and subjective in its scope.
- Community explanations. These are explanations set by the particular believing and practicing religious community.
- Intersubjective explanations. These are explanations not restricted to an individual or community of people and they involve an attempt to prove one's religious belief or give them a deductive warrant.[135]

Van Huyssteen agrees that theology's concern with explanations is at the core of its task when he writes: "Clayton is therefore right when he states that theology is not primarily a descriptive (first order) but an exploratory (second order) endeavor ."[136] In abandoning a strictly

[134] *Ibid.*, 127.
[135] Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion* (New Haven and London: Yale University Press, 1989), 4-5.
[136] J. Wentzel Van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*, (Grand Rapids & Cambridge: W. B. Eerdmans, 1999), 209.

formalist approach to theology, Clayton looked elsewhere in the philosophy of science literature. A contextual shift paves the way for approaches which take into account the holistic nature of scientific enquiry, or at least do not rely solely on formalism. The work of Kuhn is best known for taking such a contextual approach to science; however Stephen Toulmin and N.R. Hanson are also mentioned by Clayton who made the claim: "in the most general sense science is a process of understanding which addresses the question."[137] Theology also must take a contextual approach since its starting point is the community's beliefs and these do not exist on their own. Proper analysis of these beliefs takes into account the social, ethical and emotive backgrounds in which they occur, without engaging in conventionalism. A method which Clayton mentioned as taking context into account is the Lakatosian approach. Clayton maintains that Imre Lakatos achieved the right balance between contextualism and formalism. For Clayton, there is an inherent tension between the need to "thematize the general issues raised by Christian truth claims without sacrificing the specificity of the Christian tradition [and with the fact that] Christian explanations can only make sense of the world if believers can believe they are actually true."[138]

Lakatos' work has also been applied to theology by Murphy. As a prelude, however, she devotes a whole chapter to explaining what would constitute data for theology with a believer's discernment as a means for gathering data.[139] Events in ordinary life are deemed to be acts of God by a community of believers. Murphy outlines previous work by Jonathan Edwards, Ignatius of Loyola, the Anabaptists and the Quakers, in describing different ways this discernment may take place. She caveats this by listing several ways to avoid labelling psychological data (or perceptual practices) as Christian belief. Like Clayton, she notes there must be: intersubjective agreement or further observation; the engagement of perceptual practices (predicting future events from objects' behaviours); the fact that perceptual practices are universally found; the fact that all 'normal adults' use the same conceptual scheme for objectifying sense experience.[140] Murphy goes to great lengths to discount what Christian

[137] Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion* (New Haven and London: Yale University Press, 1989), 35.
[138] *Ibid.*, 176.
[139] Nancey Murphy, *Theology in the Age of Scientific Reasoning* (New York: Cornell University Press, 1990), 157-73.
[140] *Ibid.*, 160.

experiences should not be and suggests Christian practices are legitimised by agreement within a community that has learned to collectively discern the work of God. She also acknowledges the theory-laden nature of interpreted data within an individual practitioner of that community and, in fact, suggests looking for pre-existing hypotheses or theories which may already suggest the causes for said observations. But, even if theory-ladenness is not an objection, the charge of subjectivity might still be levelled. However, she balances this by noting observations should be subjected to validity and reliability. Validity refers to determining what constitutes an act of God, while reliability refers to being able to expect the same results under similar circumstances. They should be open to scrutiny for others to judge, thereby again underlying the importance of communal discernment yet leaving open the possibility for novelty. Murphy speaks of the need for community assent or discernment in this regard, as well as replicability. She also advocates the use of Scripture as data and having thus set the groundwork for what this means in the context of theology, proceeds to give an outline of it in Lakatosian terms.[141]

Murphy's description of a Lakatosian approach can be summarised as: the *hard core* should contain the theologian's judgment about how to sum up the minimum of the relevant community's faith. A hard core helps to scope any research undertaken by the theologian as well as its content. For Murphy, this is in the form of a minimum doctrine of God and would include the trinitarian nature of God, his holiness and his revelation in Jesus.

The *negative heuristic* is the measure or control put in place to protect the hard core from being falsified. This heuristic leads the theologian not to abandon the hard core but instead looks to add an auxiliary hypothesis to deflect potential falsification. One potential negative heuristic would be to assert that Jesus was sexist because there were no women among the twelve apostles. This would imply that either Jesus was not who he claimed to be or that God went against his nature and viewed women as inferior. An auxiliary hypothesis is to recognise the role of culture and society during Jesus' time and/or acknowledge the prominent role of women in the New Testament.

The *positive heuristic* is defined as plans for future research or development. For Murphy, these could be dogma, which are merely the normative statements of a particular

[141] *Ibid.,* 174-211.

confession. Thus, any future research must be consistent with those confessions of faith, acting as the worldview through which all data is filtered and interpreted. Murphy notes the positive heuristic "would be a plan to treat all the traditional loci in a way consistent with the teachings of Scripture."[142]

The *auxiliary hypotheses* serve to spell out the meaning of the hard core and to provide connections between the hard core and the data. They allow the data to be related to the theory, and for theology these would include certain doctrines. For instance, a doctrine of original sin matches the observation that every person is infected by sin.

The *data* may refer to particular parts of the Scripture or historical claims it asserts to be true and the varied results of discernment mentioned beforehand. Murphy advocates a "quasi-deductive" approach where a hypothesis predicts a particular observation with a high degree of probability. Like Torrance and Schilling, she notes the parallels between theology and science lie in the methodology and the way theology and science are conducted per se, i.e. "It sets out to show plainly that (potentially at least) theology is methodologically indistinguishable from the sciences."[143]

Murphy criticises Pannenberg's theology on two grounds:

- Pannenberg believed that revelation was indirect evidence of God throughout the whole of history.
- Disputes about which worldview is most likely are too complex to be settled.

For the first objection, she provides a Lakatosian alternative to his theology.[144] For the second, she reframes Pannenberg's theology in Lakatosian terms: The hard core is God as the all-determining reality, the data are all facts and theories from all areas of knowledge, while the

[142] *Ibid.,* 190.
[143] *Ibid.,* 198.
[144] *Ibid.,* 49-50.

auxiliary hypotheses are the historical accounts of Jesus' life and death together with clusters of doctrines such as ecclesiology, Spirit, Trinity, Christian anthropology, doctrine of creation etc.[145]

However, Murphy herself does not escape criticism. Van Huyssteen critiques her model on several grounds. Firstly, it lacks a well-developed theory of experience.[146] Secondly, with regards to her criteria, if a model is to meet strict scientific epistemic standards, then she is not justified in making Scripture a criterion in itself. Van Huyssteen suspects this lack of warrant is because "these criteria have their epistemic foundation in a deeper and prior commitment."[147] Thirdly, Van Huyssteen doubts whether scientific notions of replicability would truly be possible if truth is left up to the consensus of a community of believers; and even if it were, this still does not solve the problem of "trying to formulate transcommunal criteria."[148] Fundamentally, Van Huyssteen's main critique of Murphy is that by her opposition to postmodernism, which vigorously rejects foundationalist approaches, she has essentially made her Lakatosian theology insulated from intersubjective testability.[149] By taking such a radical stance, Van Huyssteen argues there is little room for postfoundationalism and writes:

> The inclusion of God in the hard core of a research programme is therefore not only inconsistent with the rejection of a qualified form of critical realism. It could also reveal a threat to an esoteric fideist commitment that might firmly bar the way of theology to the reality about which it proposes to make statements.[150]

But, this appears unduly harsh. Van Huyssteen, who stresses the need for rationality in bridging the gap between different communities, also lays down a foundational principle namely rationality (or the sharing of its resources) itself. That is, one may ask: Where is the justification for rationalism being a sound basis or criterion for conducting intersubjective dialogue? Murphy, like Pannenberg, might argue that if God is creator of all, would it not make more sense to make him the hard core rather than using one of his characteristics, that is, his rationality? In the end, Van Huyssteen appears to contradict himself and invites the charge of conventionalism when he writes: "If science and theology are complex intellectual activities of specific communities of

[145] *Ibid.*, 176-7.
[146] J. Wentzel Van Huyssteen, *Postfoundationalist Theology* (Grand Rapids, MI: Wm. B. Eerdmans Publishing Co.), 1997, 84.
[147] *Ibid.*, 83.
[148] *Ibid.*, 85.
[149] *Ibid.*, 87.
[150] *Ibid.*, 89.

inquirers, there is no way to prescribe a certain type of rationality for that activity without looking at its actual practice."[151]

As mentioned, Van Huyssteen's criticism seems misplaced. In a Lakatosian model, the hard core is the beginning, the axioms or assumptions which mark the research's starting points; not part of a central hypothesis which either needs to be verified or falsified. Any criticisms in this regard should be directed to Lakatos rather than Murphy. Instead, by choosing a hard core, Murphy establishes the point at which the discussion must begin. Rather than restrict discussion with the sciences, such a declaration makes clear the prevailing worldview of the theologian and gives the scientist with whom engagement is sought a more transparent view of the theologian's unquestioning commitments and beliefs.

It would be clear from Murphy's Lakatosian programmes that what is envisioned is not the assessment or the development of particular doctrines. Rather, Murphy is taking a look at the already-mentioned aspect of coherence within a series of doctrines which form part of a systematic whole. She writes: "A single doctrine could form the centre of a theological research program, but the research-programs model seems to lend itself better to incarnation in a systematic theology involving many doctrines."[152] But even if this were true, it still calls into question the suitability of Murphy's system because it is difficult to see how the emergence of doctrines would fit into the greater picture. At times, new doctrines led to strife and schisms. To merely dismiss these crises as *anomalies*, severely undermines their effect at the time in which they were formulated. Since Murphy herself does not use the term *crises* to describe these pivotal moments throughout Christianity, it would then seem that in order to accommodate a Lakatosian research programme for the development of doctrine, then the notion of any crisis in this context has to be dismissed as the constructs of an overactive imagination on the part of historians.

Nevertheless, Murphy, Schilling and Clayton, among others, have shown that a more nuanced approach which takes into account contextual approaches, variances among members of a community and the importance of experiences, means that there has been a move away from the initial assertions of theology as a purely objective or formalist science. Methodologies which

[151] *Ibid.*, 165.
[152] Nancey Murphy, *Theology in the Age of Scientific Reasoning* (New York: Cornell University Press, 1990), 176.

take into account the historical, political and social context of how doctrines develop, allow for a more comprehensive understanding of how a doctrine arose and progressed. They may also reveal how a doctrine may be adopted or transferred to other cultures or societies without compromising or watering down the essence of the doctrine itself.[153] Contextual approaches also mitigate unwarranted attacks or unduly harsh judgments on previous theologians or Christian thinkers whose names are linked or attributed to doctrines which perhaps are now reframed in different terms. The cautious approaches, advocated above in avoiding foundationalism, prevent not only sweeping generalisations but more importantly allow for a better understanding of how and why particular doctrines and heresies might have arisen. McGrath underlines this when he proposes a model for the development of Christian doctrine.[154]

Even in the natural sciences there is inherently a community of practitioners which advances a given area of research. Within the research that is conducted there are assumptions, presuppositions and certain methodologies which most members of the community agree upon. McGrath remarks that a doctrine, which includes aspects of its tradition, is accepted by a community and is relevant to the present circumstances and situation of that community. He writes:

> Doctrine is an activity, a process of transmission of the collective wisdom of a community, rather than a passive set of deliverances…[It] may be regarded as the present outcome of that long growth of tradition in which the Christian community has struggled to arrive at an interpretation of its foundational traditions, embodied in the New Testament, which both does justice to its own present place in tradition, and attempts to eliminate those doctrinal pre-judgements which are to be judged as inadequate.[155]

By defining doctrine within a framework that involves the acceptance of it by a community of faith, McGrath shows that doctrine "exercises a restraint over the individual's

[153] This is a tentative statement. New doctrines are introduced at the time of colonisation/invasion, leading to the sublimation of other voices. It may not be possible to separate the adoption of a new doctrine from those acts which also led to adoption in the first place (power relations etc.)

[154] Alister E. McGrath, *A Scientific Theology*, vol. 3, *Theory* (London and New York: T&T Clark, 2003), 217-36. This is described in more detail in Section 7.1

[155] Alister E. McGrath, *A Scientific Theology*, *vol. 3, Theory* (London and New York: T&T Clark, 2003, 28-9.

perception of truth."[156] This avoids flights of fancy and the creation of esoteric and extravagant doctrines.

Another point of commonality between theology and science is the importance of tradition. This might not be immediately obvious for the natural sciences, but becomes evident when one realises that new theories are themselves built upon previously established results. For theology, McGrath believes tradition plays a vital role in the explanatory aspects of scientific theology in three ways. A tradition:

- to offer an account of its own specific form and contents, and explicate their interconnection.
- to offer an account of why alternative traditions exist.
- must be able to be viewed through theoretical spectacles in such a manner that it is able to offer explanations which may reasonably be regarded as appropriate and convincing to those within that tradition.[157]

The final word on the relationship between theology and the sciences is left to Torrance. He listed five similarities between theology and the sciences, focusing on the relationship between God and humans, thereby alluding to the benefit of understanding contextual approaches between theology and science. These are: they are both related to human inquiry and assume an intelligibility about the object to be studied; they both have a respect for the objectivity of facts; notwithstanding language used in mathematics, physics and theology, neither theology nor science operates with a preconceived metaphysics and everything can be called into question; both theology and sciences have boundaries which, if either of them attempts to cross, they will run into error or inconsistency; and finally, they both face the problem that when a discipline grows, difficulties also grow in relating scientific language to ordinary language.[158]

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[156] *Ibid.*, 28.
[157] Alister E. McGrath, *The Science of God: An Introduction to Scientific Theology.* (London, New York: T&T Clark, 2004), 208.
[158] Thomas F. Torrance, *Theological Science* (Edinburgh: T&T Clark Limited, [1969] 1996), 281-295.

2.3 Final Remarks for Contextual Approaches between Theology and Science and their Implications for Understanding the Development of Doctrine

In conclusion, contextual approaches from the philosophy of science applied to theology allow for a more holistic understanding of God, his work and his relationship to humanity, not only in the present time, but also throughout history. Such sensitivity to history allows a better appreciation of how specific teachings or doctrines arose, progressed and developed. It enables a better application of long-standing doctrines to different times, cultures and places, while avoiding misunderstandings and criticisms that come from a lack of empathy for the pressures and concerns of a community or society at a given time and place.

CHAPTER 3

A Summary of John Henry Cardinal Newman's *An Essay on the Development of Christian Doctrine* with Insights from the Philosophy of Science

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John Henry Cardinal Newman's *An Essay on the Development of Christian Doctrine* is a pivotal point for other work in this area. His *Essay* is considered here in light of ideas from the philosophy of science, thereby demonstrating that Newman's work can engage in interdisciplinary dialogue with models from other fields of human endeavour. Originally written in 1845, Newman's *Essay* is a seminal work in the history of Christian thought.[159] Its purpose was to detail the way doctrine within Christianity has developed over the century. Its emphasis was largely on the Roman Catholic Church and was in part a defence of its teachings, the papacy and its magisterium. Although the first edition is over 150 years old, John T. Ford among other things, discusses some reasons why Newman continues to be relevant to this day.[160] He writes

> It would seem Newman's theological writings somehow resonate with current theological topics and with contemporary theological methodology; in other words, Newman wrote in a way that is congenial to modern thought and he wrote about topics that are currently questions of interest.[161]

Paul Misner analysed Newman's papal defence and considered it to be a natural development of doctrine.[162] In the preface of the third edition of the essay, Newman wrote:

> The following pages were not in the first instance written to prove the divinity of the Catholic religion, though ultimately they furnish a positive argument in its behalf, but to explain many difficulties in its history, felt before now by the author himself, and commonly insisted on by Protestants in controversy, as serving to blunt the force of its prima facie and general claims on our recognition.[163]

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[159] All references to Newman are here taken from the sixth edition of his book *An Essay on the Development of Christian Doctrine* (Longmans, Green, and Co., 1909).
[160] John. T. Ford, "John Henry Newman as a Context Theologian", *Newman Studies Journal*, **2**, no. 2, 2005, 60-76.
[161] *Ibid.*, 61.
[162] Paul Misner, *Papacy and Development: Newman and the Primacy of the Pope* (Leiden: E. J. Brill, 1976).
[163] Newman, vii.

Discussion on the development of doctrine continues up to this day. John T. Noonan Jr. wrote on the development of moral doctrine within the Roman Catholic Church.[164] Richard Myers criticised Noonan's view that the Roman Catholic Church doctrine constantly changed and believes that Noonan's revisionist approach does not hold true.[165] Further, Myers writes that many who take this erroneous view, use Newman to support this position.

However, the focus here is on Newman's development of doctrine and on doctrines shared by most other mainstream Christian traditions. Newman's emphasis was on the manner in which doctrines arise and change. The existence of potential falsehoods, as believed by some of their proponents, how they are dealt with, and the way doctrines comes to be accepted as true, or at least plausible, are also discussed. This chapter systematically analyses Newman's *Essay* while continually interacting with theories from the philosophy of science. Models proposed by Karl Popper, Thomas Kuhn, Larry Laudan, Michael Polanyi and Imre Lakatos are discussed and contrasted with Newman's thoughts on the development of doctrine. The aim is to show there are correspondences between Newman's ideas on the development of doctrine and the way some philosophers view scientific progress. This allows for greater interdisciplinary dialogue between what might appear to be mutually independent domains. The structure of this chapter follows closely that of Newman's own treatise. Given that Newman's *Essay* has not previously been in dialogue with theories from the philosophy of science, the scope is deliberately wide. Here, the focus almost exclusively addresses Chapters 1-5 of Newman's book and thus mostly steers clear of the applications or examples which Chapters 6-11 illustrate. The work here can be used as a foundation to analyse particular vignettes in a deeper and more thorough manner.

3.1 The Aim of Newman's *Essay*

Newman stated that Christianity had spread all over the world and had become "public property."[166] He believed just about everyone in the West had an opinion on the Christian propositions. These opinions can be questioned and debated because the dialogue has shifted within Christianity over time. It had been reduced to principles which could be decoupled from

[164] John T. Noonan, Jr., "Development in Moral Doctrine", *Theological Studies*, no. 54, (1993): 662-677.
[165] Richard S. Myers, "A Critique of John Noonan's Approach to Development of Doctrine", *U. St. Thomas Law Journal* , no 1, (2003): 285-306.
[166] Newman, 4.

history.[167] For Newman, this was the Achilles' heel of Christianity: Protestantism had allowed the spawning of a number of counterfeit and false doctrines to spring up because it lost contact with its historical roots. Although extreme changes are possible, Newman believed Christianity had continued to flourish with the same body of knowledge and prophecy as first promulgated by the Apostles after Christ's death.[168]

Nevertheless, Newman described the tension between both sides regarding the development of doctrine. In the scientific domain, Kuhn believed that continuity in scientific progress was not guaranteed. Kuhn saw a tension between a continuing, long-standing tradition and innovation.[169] However, Larry Laudan believed that there is more continuity in paradigms (or as he called them, research traditions) than Kuhn allowed for.[170]

Despite this tension in the doctrinal development, for Newman, the self-evident, proven hypotheses and history of Christianity had shown itself to be true time and time again. But in opposition to this tradition, "some writers have gone on to give reasons from history for their refusing to appeal to history."[171] This charge was levelled at Protestants, because according to Newman, in order to be a Protestant, one has to dismiss history. They had adopted another paradigm while the Roman Catholic Church remained with the old paradigm because "their standards and definitions...are not the same."[172] Newman said the reason for this was a failure by those who purported to be Christians, or those who are responsible for upholding its truths, not living according to its principles and edicts. But, he noted that if one cannot appeal to novelties in the teaching of the Roman Catholic Church then the Creeds developed in the early Church councils and all of the works by the early Church Fathers should also be dismissed. He maintained the teachings from the Church had always grown, expanded or been modified according to tradition.[173] Newman believed that if Protestants insisted on branding the Catholic

[167] Newman, 5.
[168] Newman, 5-7.
[169] Thomas S. Kuhn, *The Essential Tension* (Chicago and London: The University of Chicago Press, 1977), 225-39.
[170] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth* (London, UK: Routledge & Kegan Paul, 1977), 98.
[171] Newman, 6.
[172] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 147.
[173] Newman, 10, 13, 29.

Church as corrupt due to new teachings, then in order to be consistent, Protestants should not accept anything from the early Church Fathers either.[174]

Newman insisted Christian doctrine had never been stagnant, yet there was a tradition which Christianity had always embraced. Slow progress *is* the history of the Church and he accused Protestants of being inconsistent in their refusal to accept some teachings on the basis of not being present from the start while at the same time welcoming others which were introduced and accepted centuries later into Church. Hanson pointed out that Newman takes Scripture to be merely a starting point, with development always representing an increase of dogmas. Newman never contemplated doctrinal development as implying a reduction. According to Hanson, Newman's view on doctrinal development is like a coral reef which is continually growing and expanding. However, according to Hanson, history has shown several of Newman's judgments to be invalid and has forced a reassessment as to what defines orthodox Christian doctrine.[175]

One of the doctrines that Newman pointed to with regards to it being developed well after the Scriptures is that of the Trinity. He wrote: "…that there is any mystery in the doctrine, that the Three are One, they are Coequal, Coeternal, all increate, all omnipotent, all incomprehensible is not stated."[176] Two other doctrines Newman listed are those of Purgatory and Original sin. For Purgatory and Original sin, he noted that these were accepted by some of the early Church Fathers like St Jerome, St. Gregory of Nyssa and Tertullian.[177]

Newman then provided a couple of explanations as to why early and latter Christianity might differ. The first is that doctrine has always remained the same and has not so much progressed, but rather in the past, certain aspects of the teachings of the Church had been deliberately kept or suppressed by the Church from being disclosed to the general public, in order to avoid doctrinal corruption or irreverence. This could have the effect of preventing or slowing down the promulgation of doctrine to believers.[178] Similarly, Kuhn asserted that when new ideas or theories challenge the old in science, the status quo will seek to assert its dominance.[179] Newman ended this section by stating his *Essay's* aim: to explain the

[174] Newman, 6, 23-4.
[175] Richard P. C. Hanson, *The Continuity of Christian Doctrine* (New York: Seabury Press, 1981), 26-7.
[176] Newman, 16.
[177] Newman, 21-2.
[178] Newman, 27-9.
[179] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 77.

development of doctrine.[180] Analogously, in Kuhnian terms, the *Essay* is an exercise in "normal science" because "the constructor [Newman] of such puzzles often proceeds with an assumed solution in mind, and, taking the regulations the puzzle-solver will have to follow into account [and] invents an appropriate puzzle."[181]

Newman was keen to stress the importance of tradition for the preservation and development of doctrine. However, if doctrine concerns the systematic arrangement of human-derived thoughts given to the body of Christ, then occasionally these might need revising in comparison with what was once believed to be true. Further, Newman has also been described as a contextual theologian and hence using some of the contextual theories from the philosophy of science outlined in the previous chapter would also seem appropriate. Ford wrote: "Newman habitually began his theological discussions with a concrete situation, a particular question of the day that intrigued or challenged him or as Newman acknowledged in his *Autobiographical Writings*, he usually needed a "call" – a concrete issue – in order to write."[182] Thus, Ford argues that although Newman was a traditionalist, he wrote addressing a specific situation for a particular time and place. But there is a danger in taking such an approach. Ford admitted that if the historical context disappears, its related writings may become irrelevant.[183]

3.2 Development of Ideas

Newman began Chapter 1 by discussing the cognitive processes of a human being. He described an idea as not existing in isolation but rather, it is subjected to the mental and critical faculties.[184] As soon as an idea enters the public domain, it is judged, compared, contrasted and evaluated. Michael Polanyi, who influenced the writings of Kuhn, maintained that in science, the intrinsic interest of an idea is significant.[185] Newman believed that ideas enter and may remain in human consciousness even when there is no reason for that being the case, thereby suggesting a

[180] Newman, 29-32.
[181] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions* (Chicago and London: The University of Chicago Press, 1993), 173.
[182] John. T. Ford, "John Henry Newman as a Context Theologian", *Newman Studies Journal*, **2**, no. 2, (2005): 66. Ford described a contextual theologian as "a person who specifically recognizes the *context* – the multiple historical, social, and cultural factors that influence every person's theological reflections."
[183] *Ibid.*, 68.
[184] Newman, 33.
[185] Michael Polanyi, *Personal Knowledge* (London: Routledge, 1998), 136.

subjective character to their survival.[186] Paul Hoyningen-Huene, who discusses Kuhn's *Revolutions* in depth, writes that sometimes there may exist problems in the communication of an idea so that even though the concepts may have changed, the names have not. Hoyningen-Huene also maintains that because there are no explicit definitions of concepts adequate to all people, explicit knowledge might be difficult to be accurately expressed.[187] Polanyi also stressed that ideas can form in the mind, even at a subconscious level and believed the human mind makes an implicit assent to ideas.[188] For Christianity, Newman maintained such inconsistencies appear to be contradictions because even though they can be resolved, "there is no one aspect deep enough to exhaust the contents of a real idea, no one term or proposition which will serve to define it."[189] Newman did not appear to state that language is insufficient, but seemed instead to imply the human mind in its finiteness is not capable of understanding the complexities of an idea. This means that subjectivity does not only involve the notion that a person might deem something to be more important than it would be for someone else. Another aspect is that due to the natural limits of the human mind, a person can only possess an incomplete picture of an idea.

This idea, which takes place in the mind, is not one the possessor fully understands or realises. He or she might not be fully cognisant this idea is moving them or causing affections which might contradict other long-standing ideas. But this new idea or thought will not stand in isolation to others. This idea will be incorporated in relation to other pre-existing beliefs. In public discourse, these individual experiences are collected, sifted, evaluated and discussed so they shape and form an established order. Newman stated that ideas now in the public domain cannot be considered as developed, unless all the implications belonging to the original idea are brought into public life.

Newman declared that ideas compete against other ideas.[190] In the natural sciences, such conflict is similar to Kuhn's pre-paradigm period, where it is characterised by a competition among different paradigms which are still immature. After a period of conflict where each paradigm fights for supremacy, Kuhn believed an eventual victor would triumph.[191] Margaret

[186] Newman, 33.
[187] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions* (Chicago and London: The University of Chicago Press, 1993), 256-7.
[188] Michael Polanyi, *Personal Knowledge* (London: Routledge, 1998), 100.
[189] Newman, 35.
[190] Newman, 36-8.
[191] Thomas S. Kuhn, *The Essential Tension* (Chicago and London: The University of Chicago Press, 1977), 295.

Masterman believed that it was equally valid that there could be a number of paradigms which are firmly established.[192] They are not merely hypothetical or abstract notions describing the evolution of old ideas, but they are lived out and transmitted by people. These ideas are in constant competition and striving for control and mastery over others, employing people who argue for them based on their own subjective interpretation.[193] Newman wrote:

> It is the warfare of ideas under their different aspects striving for their mastery, each of them enterprising, engrossing, imperious, more or less incompatible with the rest, and rallying followers or rousing foes, according as it acts upon the faith, the prejudices, or the interest of parties or classes.[194]

Ideas undergo a struggle, or a period of struggle, where they are in opposition to other ideas and when enough people accept their tenets and consequences they are welcomed by a larger community or group of people. White writes that for Newman the notion of revelation as an idea is something that "transcends an individual's concepts and notions and transfixes the minds of a community on something above it."[195] Interestingly, it has been noted that Newman's *Essay* itself owes at least some of its success to others taking up his work and extending it. C. Michael Shea noted that Father Giovanni Perrone learned and advocated Newman's theory.[196] Shea writes: "Attention to Perrone's subsequent writings and activities demonstrate that he appreciated Newman's theory of development, adopted portions of it, and even advocated it publically in the city."[197] Newman also pointed out that ideas are modified or contorted by the current environment in which they are carried out. According to Newman, an idea is subjected to the individual biases of each person and to the culture and norms of society to which it is exposed.[198] He wrote that an idea is "carried on through and by means of communities of men and their leaders and guides; and it employs their minds as its instruments, and depends upon

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[192] Margaret Masterman, *The Nature of a Paradigm (In Criticism and the Growth of Knowledge)* (Cambridge, UK: Cambridge University Press, 1970), 74.
[193] Newman, 39.
[194] Newman, 39. This statement has many similarities to the power-knowledge nexus term coined by Michael Foucault. According to Foucault, power is based on and makes use of knowledge and yet power reproduces and shapes knowledge according to its hidden intentions.
[195] John R. White, "Doctrinal Development and the Philosophy of History: Cardinal Newman's Theory in the Light of Eric Voegelin's Philosophy", *American Catholic Philosophical Quarterly, Journal of the American Catholic Philosophical Association*, **83**, no. 2, (2009): 210.
[196] C. Michael Shea, "Father Giovanni Perrone and Doctrinal Development in Rome: An Overlooked Legacy of Newman's *Essay on Development*", *Journal for the History of Modern Theology*, **20**, no. 1, (2013): 85-116.
[197] *Ibid.*, 87.
[198] Newman, 38-9.

them, while it uses them."[199] Similarly, for scientific progress, Kuhn also emphasised the importance of a community (in accepting a paradigm) by stating that it must "attract an enduring group of adherents…"[200] However, he differed with Newman in that this community was meant to promote a move "away from what was going on."[201] Nevertheless, in discussing *infallibility* Ford noted that Newman was aware of the need to give time to allow for acceptance of something new or novel. He writes:

> Newman recognized that if doctrinal teachings emerge from a process, the acceptance of such teaching also needs a parallel process of reception that allows people sufficient time to appropriate doctrinal teaching, time to "receive" church teaching that is new to them. Such lessons seem particularly useful in the heat of current theological debates.[202]

Further, Newman described different kinds of development of ideas. He outlined parameters for what he defined to be development. These parameters are either used to describe the end result or the actual process of an idea. Newman believed there were different types of developments including mathematical, physical or material (geographical, geological, etc).[203] There are also political developments which are dictated by forces or pressures from the intellectual realm of society.[204] There are many reforms, revolutions, reactions and changes where the practical often precedes the intellectual process. Newman also discussed historical developments and the fact they are constantly being added to, but through the lenses of hindsight. Newman noted: "history cannot be written except in the after-age."[205] Interestingly, Kuhn described a possible reason as to why scientific revolutions may be invisible. But while he was reflecting on the natural sciences, this might also apply to Christian doctrine. Kuhn wrote "in short, they [textbooks] have to be rewritten in the aftermath of each scientific revolution, and, once rewritten, they inevitably disguise not only the role but the very existence of the revolutions that produced them."[206] If this is true for Christian doctrine, then this means that alongside its

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[199] Newman, 38.
[200] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), xxii.
[201] *Ibid.*, xxii.
[202] John. T. Ford, "John Henry Newman as a Context Theologian", *Newman Studies Journal*, **2**, no. 2, (2005): 73.
[203] Newman, 41-2.
[204] Newman, 42-4.
[205] Newman, 47.
[206] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 136-37.

revolutions, doctrines are retrospectively recast in a light which undermine the occasional, but dramatic upheavals. Newman maintained that these historical developments are "the gradual formation of opinion concerning persons, facts or events."[207] Newman's reasons for these types of developments flourishing anticipate those of Kuhn's with regards to community and the importance of scientific progress dependant on a group of practitioners taking up its cause to advance a new theory.[208] Newman asserted: "Judgments, which were at one time confined to a few, at length spread through a community, and attain general reception by the accumulation and concurrence of testimony."[209]

The next type of development discussed by Newman was logical. Logical developments are intellectual in character and are known for their consistency and detail.[210] In the philosophy of science, this type of rationality which is separate to any extraneous factors, is typically associated with the work of Karl Popper who wrote:

> A subjective experience, or a feeling of conviction, can never justify a scientific statement, and that within science it can play no part except that of an object of an empirical enquiry. No matter how intense a feeling of conviction it might be, it can never justify a statement.[211]

Newman also discussed ethical developments. These are personal and natural, and draw inferences from characteristics like reverence, honour, trust etc.[212] Ethical developments are the expressions of the internal (presumably in a person's conscience) to the external (a person's actions) and later manifested in worship. Invoking ontological arguments for the existence of some kind of development of ideas, Newman stated: "it is plain that passions and affections are in action in our minds before the presence of their proper objects..."[213] Similarly, Polanyi described the heuristic nature of intellectual passions when he wrote: "Intellectual passions do not merely affirm the existence of harmonies which foreshadow an indeterminate range of future discoveries, but can also evoke intimations of specific discoveries and sustain their persistent

[207] Newman, 46.
[208] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 163.
[209] Newman, 46.
[210] Newman, 46.
[211] Karl Popper, *The Logic of Scientific Discovery* (London and New York: Routledge, [1959] 2002), 21.
[212] Newman, 47-8.
[213] Newman, 48.

pursuit through years of labour."[214] Therefore, an idea germinates in the mind and is linked to the emotions and passions. If this is also true of Christianity, this means there is more than simply a mental or intellectual activity that leads to the rise of a doctrine. For Newman, true religion is external to the person and arises from a desire to seek a moral origin. It is a search for truth which is transcendental and universal. Humanity strives for something greater than itself. It seeks a form of government, a superior power.

The last type of development Newman described were those that were metaphysical. Here, "the mind may be employed in developing the solemn ideas, which it has hitherto held implicitly and without subjecting them to its reflecting and reasoning powers."[215] The mind might hold an idea for a period of time before subjecting it to rigorous scrutiny. He alluded to these ideas' rather subjective manner, because they speak of the impression of objects.[216] The objects' development merely consists of bringing forth these ideas and their consequences. The meditation on the things of God create an impression or picture of that contemplated.[217] In Christianity, Newman maintained that truths are derived from the last five types of developments mentioned: political, logical, historical, moral (ethical) and metaphysical.[218] But the effect of Newman delineating the different types of developments is the implication they are mutually exclusive – the historical is completely separate from the ethical, the ethical from the political and so on. Speaking for the natural sciences, Kuhn would disagree and maintain these factors are all interlinked.[219]

3.3 Antecedent Arguments for the Development of Doctrine

Newman began Chapter 2 of his *Essay* by stating developments do not only occur but are to be expected. Newman believed that if Christianity forms an impression through an idea then this singular idea will become two and then a multitude. They will be connected with one another, and in time, this integration will become immutable and unchangeable with a singular

[214] Michael Polanyi, *Personal Knowledge* (London: Routledge, 1962), 143.
[215] Newman, 52.
[216] Newman, 53.
[217] Newman, 53.
[218] Newman, 54.
[219] Thomas S. Kuhn, *The Essential Tension* (Chicago and London: The University of Chicago Press, 1977), 324-5.

idea often received but not completely understood straight away. These ideas, in the mind of a person being taught, vary in substance, richness and the manner in which they are comprehended. Hilary Lawson provides philosophical support for this concept.[220] There is the notion that the world itself is open and it is only humans that seek to establish boundaries or as Lawson calls it, "closure". This "closure" allows for the dividing of "openness" into categories. Humans have a tendency to close things so they may better compartmentalise and understand circumstances and objects existing in the world and their environment.[221] The theologian Alister McGrath concurs with Lawson when he writes: "the world then, is by nature open; it is the human who secures closure."[222]

Newman anticipated a possible objection: the Bible is inspired and thus is immune from the common fallibilities that would be the case in every other situation.[223] However, he believed there would be a time when the authors of the Scriptures ceased to be inspired by God and thus developments must be completed afterwards.[224] But Newman did not elaborate and it is tempting to ask whether Kuhn's words ring true for this assumption, i.e.: "Neglect of the current specialists' literature is, however, only one part of the problem and perhaps not the most serious. More central is the particular selectivity with which historians approach the sciences..."[225] That is, if Christianity selectively chooses the way it develops doctrine, is it possible that there might be an inherent bias and worldview by which Newman approaches the issue? Newman overlooked the fact that since Christianity is held in the minds of people, its divine status could be downgraded to that of other earthly endeavours by people with different assumptions. And developments in doctrine take place in the minds of humans as the circumstances of the time dictate; whether they are political, cultural etc. As these cannot be anticipated, their refutations or counter-arguments can only be made *a posteriori*. Newman argued that a Protestant is no different to the Pope since they both declare they are arguing from the Scriptures and both can be considered additions. But for Newman there was one distinction: Due to its novelty, Protestant teaching has not been subjected to the rigour or analysis Catholic doctrine had throughout history. Also for Newman, doctrine is not argumentation upon words or simply hypotheses

[220] Hilary Lawson, *Closure: A Story of Everything* (London and New York: Routledge, 2001).
[221] *Ibid.*,.4.
[222] Alister E. McGrath, *A Scientific Theology, vol. 3, Theory* (London and New York: T&T Clark, 2003), 44.
[223] Newman, 56.
[224] Newman, 57.
[225] Thomas S. Kuhn, *The Essential Tension* (Chicago and London: The University of Chicago Press, 1977), 132.

always having been established by authority. An example is the interval between Christ's death and his second coming. Newman believed since not much was said in this regard, theologians have invariably gone further and beyond the Scriptures.[226] Interestingly, Newman made a link between progressive revelation and the development of doctrine so that as revelation becomes clearer, the development of doctrine proceeds.

Newman argued there is a gradual accumulation and steady progress that occurs when developing doctrine.[227] But one could ask: what are the requirements by which knowledge can be assessed to have grown or accumulated? Popper's criteria for determining growth of knowledge might here be of assistance.[228] He noted there are three requirements for the growth of knowledge. The first is it should be a powerful, new, simple and unifying idea. Knowledge is deemed to have advanced if an idea has been shown to unify previously unconnected concepts or objects. The second requirement is that the idea has to be independently testable. Apart from being able to explain consequences, it must be able to predict new phenomena which have not yet been observed. This second requirement is crucial and ensures a significant step forward has been taken because several milestones are then achieved. This resembles the problem-solving aspect of a paradigm as outlined by Kuhn.[229] In Kuhnian problem-solving, there is steady progress and new rather unsurprising results are being obtained. These milestones are: a new theory is more testable than the previous theory, a new theory explains the phenomena of any previous theory it might be replacing, and a new theory gives rise to new tests. This third and last requirement stands on its own and can only be tested empirically.

Another interesting example provided is the Gospel of John. It is different and comes much later than the three Synoptic Gospels. This is put forward by Newman as evidence that newer truth has not dispensed with, but rather added to, older truth. From this addition, new ideas and new doctrines emerge. Newman believed doctrines are derived from Scriptures by people who have authority. Further, for Newman, the close of the Canon of Scripture does not mean an end to the development of teachings. He asserted it is the influence of political developments and

[226] Maybe there was a perceived lack of knowledge or not much could be found and anecdotal evidence was sought.
[227] Newman, 64.
[228] Karl Popper, *The Logic of Scientific Discovery* (London and New York: Routledge, [1959] 2002), 327-328.
[229] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions* (Chicago and London: The University of Chicago Press, 1993), 259-60.

the weight of history that shape doctrinal developments. This incremental approach to knowledge ensures that the legitimacy of old ideas or knowledge is unlikely to be questioned.

Newman finds another reason within the actual structure of Scripture itself. He believed that Scripture is unsystematic, and varies in prose and style so that unless it is blatantly incorrect, a new doctrine cannot be immediately ruled out.[230] Being ambivalent or tentative about new ideas could also occur in other domains of human endeavour. In science, Lakatos warned against discarding what he calls a research programme simply because it has not overtaken its rival. There is a "methodological tolerance" whereby the newer research program is sheltered from the older, more established research program.[231] For Newman, because truths from God may be hidden, they are missed by the general world and it takes people who are able to glean the word of God to extract new things that have not been seen previously. Another reason for the teachings being hidden for so long could be due to the Scriptures never asserting which parts are more essential than others, as well as the Bible not always revealing what course of action should be taken in every situation. It is more a rule or guide book than an actual manual with specific commands. Polanyi did not see this as a problem in science, and in fact thought this type of uncertainty was necessary. He wrote: "All formal rules of scientific procedure must prove ambiguous, for they will be interpreted quite differently, according to the particular conceptions about the nature of things by which the scientist is guided."[232] Newman insisted that while the theoretical aspects emanating from the Scriptures may be clear, the practicalities or applications may not be. He believed when Christ delivered the Beatitudes he was drawing from the Old Testament in a manner not previously understood. That is, a new and novel reinterpretation of an Old Testament passage was given by Jesus. Newman explained that: "what was announced to Moses in the burning bush, is afterwards represented as the growth of an idea under successive emergencies."[233]

Newman explicitly stated that when new ideas arise they do not do so according to a pressing need which arises at a particular time.[234] This description is the polar opposite of a Kuhnian crisis where a current paradigm is no longer sufficient and something external must be

[230] Newman, 71.
[231] Imre Lakatos, *The Methodology of Scientific Research Programmes* (Cambridge, UK: Cambridge University Press, 1978), 70-1.
[232] Michael Polanyi, *Personal Knowledge* (London: Routledge, 1962), 167.
[233] Newman, 68.
[234] Newman, 73-4.

sought.[235] Newman argued that God has given believers gifts such as reason and intellect from which to draw from the Bible so that new things may be extracted according to his will.[236] Chapter 2 in Newman's *Essay* finishes by providing arguments that existing developments are the fulfilment of past expectations.[237] In science, Kuhn believed that progress is for the most part "normal". He described this as "...the actualization achieved by extending the knowledge of those facts that the paradigm displays as particularly revealing, by increasing the extent of the match between those facts and the paradigm's predictions, and by further articulation of the paradigm itself."[238] The main point in common between Newman's view in this respect to doctrine, and Kuhn, is that new results are not surprising and are rather to be expected.

An alternative proposal was given by Lakatos who suggested that an increase in empirical content for the sciences indicated that theories are *theoretically progressive.*[239] In this context, one theory predicts new discoveries. And, if there is also an increase in theoretical context, then it is a progressive *problemshift.*[240]Arguably, the development of new doctrines in the way Newman described it can be thought of as increasing theoretical content,[241] while doctrines which have merely been expanded upon can be thought of as increasing in empirical content. This is particularly apt when Newman described some doctrines as furnishing proof for the probity of another doctrine.[242]

Newman argued that in the expectation of there being a development of doctrine, an infallible authority is to be expected. Despite this being a notion many Protestant denominations reject, Newman made several observations worth pointing out. He admitted that even though revelation is universal and objective, Christians are nevertheless subjected to biases in the formulation of doctrines. He wrote: "prejudices from birth, education, place, personal attachment, engagements, and party, it can hardly be maintained that in matter of fact, a true

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[235] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 66-76.
[236] Newman, 75. (In the next section of this chapter, Newman provides reasons for an infallible authority to be expected. This is a distinct Roman Catholic teaching, and as such, it will not be discussed here).
[237] Newman, 92-8.
[238] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 24.
[239] Imre Lakatos, *The Methodology of Scientific Research Programmes* (Cambridge, UK: Cambridge University Press, 1978), 33.
[240] *Ibid.*, 34.
[241] Newman, 96.
[242] Newman, 92.

development of it carries its own certainty even to the learned, or its own history, past or present, is secure from the possibility of a variety of interpretations."[243] Newman's ideas of a dominant paradigm are also shared by Kuhn with respect to scientific progress. He believed dominant paradigms triumph over their competitors and prevent a myriad of differing viewpoints.[244] And, Newman contrasted human variability with the way the Roman Catholic Church has been consistent with its teachings and how, in general, Christian doctrine is unified and coherent as a whole. These are similar to the Kuhnian notion, for science, of "a constellation of beliefs, values, techniques, and so on shared by the members of a given community."[245] In fact, White supports this notion when discussing Newman's views on the doctrine of the Trinity and states:

> As Newman writes ... the doctrine of the Trinity is then "made up of a number of separate propositions, each of which, if maintained to the exclusion of the rest, is a heresy (*Newman p14-15*)". In other words, the original, non-propositional experience becomes articulated into a constellation of propositions, held together in their sense by the original experience which is the case for any proposition and is so, in fact, even for false propositions.[246]

3.4 Historical Arguments for Supporting Existing Developments

Newman believed new developments or doctrines currently being formulated will find their origins in Scripture. This may take a while as a particular doctrine might have only been firmly established or become official in the third, fourth or fifth century, for instance. Newman thought that even though a doctrine might not have appeared until hundreds of years later, to reject it is akin to rejecting the entire body of theology from which it is related without there being a suitable substitute. These new developments are taken on faith and show themselves to be true, given a suitable period of time. Further, Newman stated that what is clearly understood and has already withstood the test of time is used to aid in the testing of the new and young.[247] Commenting on scientific progress, Laudan similarly noted that "individual concepts ... which are components of these larger complexes, do not – indeed cannot – stand alone, and as a result

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[243] Newman, 76.
[244] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 24.
[245] *Ibid.*, 174.
[246] John R. White, "Doctrinal Development and the Philosophy of History: Cardinal Newman's Theory in the Light of Eric Voegelin's Philosophy", *American Catholic Philosophical Quarterly, Journal of the American Catholic Philosophical Association*, **83**, no. 2, (2009): 215-6.
[247] Newman, 100.

we generally should not appraise or evaluate concepts on a piecemeal basis." [248] However, if a prophecy has been fulfilled, for Newman this does not mean a second prophecy is not forthcoming or does not exist. The first might be exact or self-contained, but this would not necessarily eliminate the possible existence of another.[249] Newman argued that all the doctrines taken together as a whole form the body of religion. These are interwoven and intersect with one another and although they did not all emerge at the same time, their momentary absence did not mean that there was lacking beforehand. A collection of evidences strengthens the whole and when each is added, its cumulative effect is multiplicative rather than linear with respect to having confidence on their veracity.[250] The concept that ideas do not exist in isolation is also one that Kuhn highlighted. A single idea is only a small piece existing within the wider network of ideas and theories.[251] Similarly, Küng notes that within a particular theological paradigm, there might be macro, meso and micro-models with each subsuming the other.[252] These models are interconnected and should be seen collectively rather than on their own.

According to Newman, when a new doctrine emerges, it should be accepted without too much objection and it should examine the evidences to which it appeals. Individuals might be sceptical or have doubts, but the real onus is on the church or the hierarchy to verify a given doctrine. That is, disconfirming evidence is sought after rather than confirmation. He then makes a comparison between Francis Bacon's scientific method and the process he (Newman) described by which he believed Christianity utilises to arrive at truth. One distinction Newman made is that Bacon was dealing with facts which make themselves available to the senses. These are not subjected to conjecture and hypothesis, and are different to the way the Christian Church deals with matters of doctrine. For instance, ethics are personal and rely on others' opinions and traditions because facts cannot be obtained.

Newman also believed that while history is of critical importance to doctrine, , the senses, and to a lesser extent rational thinking, are paramount for the sciences.[253] Newman argued that

[248] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth* (London, UK: Routledge & Kegan Paul, 1977), 182.
[249] Newman, 105.
[250] Newman, 107.
[251] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 112.
[252] Hans Küng, *Theology for the Third Millenium* (New York: Doubleday, 1990), 134.
[253] Newman, 111.

although the method of arriving at truth is not perfect, the fact that truths have been decreed by a perfect God means individuals will eventually arrive at them. Truth makes its presence known through different means and at different times to people. Newman wrote that to one, God leads to prayer and obedience, but to another, God may lead to the written word. Clayton, in comparing theology and the natural sciences, referred to Reinhold Niebuhr by noting instances are not arguments and a reliance on antecedent probability is much greater in theology than would otherwise be the case in the natural sciences. However, if context and non-rational factors are shown to be crucial for the development of science, then any differences between it and theology in general, might not be so great after all.[254] The strength of this antecedent probability is such that it may overturn contrary evidence. As an analogy, there might be a court trial where the evidence against a person of dubious character may not be compelling, but because of previous similar offences a judge is more likely to ignore the current evidence in favour of his history. In all these cases, reliance is not so much on proof, but on past experience.

Newman admitted that a lack of evidence in arguing for the development of doctrine can bring its own difficulties.[255] The events related to the development of doctrine could simply have been well-known, making them commonplace and thus in the writer's eyes not worth noting.[256] Another reason given is that the writer felt the sacredness of the subject matter at hand and was reluctant to write the arguments down. Other explanations include external pressure, fear, disgust, indignation, hatred, contempt and complexity. The predisposition or bias of the writer could also have been factors causing some things to be omitted from their writings. Many other reasons were provided by Newman: the events took place slowly, or omissions were made out of policy or prudence or from loss of documents or evidence.[257]

In fact, part of the enduring legacy of Newman is that he not only wrote about topics that are still current today but did so trying to persuade and convince his readers of the veracity of his claims. Further, his reasons for writing were not merely intellectual; there was a personal nature to them. Ford writes:

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[254] Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion* (New Haven and London: Yale University Press, 1989), 87.
[255] Newman, 114.
[256] Newman, 116.
[257] Newman, 117.

> Thus, reading Newman the theologian is not an exclusively intellectual pursuit; rather, following Newman is a journal of faith - *not* merely a matter of examining historical data, *nor* simply a consideration of speculative propositions, but a personal sharing of theological views that lead to religious convictions.[258]

White compares Newman to the Neo-Scholastics and similarly writes: "Unlike the Neo-Scholastics, who focused on propositional formulae in abstraction from history, Newman looked directly at revelation and at the meaningfulness of the lived experiences of revelation in the community of the Church within history."[259]

Newman then more forcefully noted that an external influence such as a law can distort the facts to such a degree its desired effect might be the opposite; so that suppression leads to rebellion and the promulgation of ideas which a law actually aimed to prevent.[260] However, it could be argued that the mere presence of rules will lead to rule-breakers questioning the status quo. Parallel to Kuhn on science, these factors outside the relevant discipline or area of research can have a huge impact on the development of an idea or doctrine.[261] There could also exist within the authority of the Church different and opposing testimonies due to the varying influence of circumstances upon the expression of opinion or testimony.[262] Kuhn similarly pointed out that although this occurs in science, a consensus is eventually reached. Paradoxically, Newman believed there might be too much evidence, so that it can have the opposite effect as it raises suspicions in the mind of the reader regarding the veracity of the facts. Newman explained that another subtle reason for omission can be found on particular circumstances of the day. During the time of the writings particular matters or issues might not have been at the forefront of society and only became important much later on. Though omissions might occur without being deliberate, Newman believed true development of doctrine has a divine source firmly rooted in historical precedent. He conceded omission of evidence may not be the only reason for rejecting development of doctrine. He highlighted the selective nature of doctrinal development which includes factors outside of Christianity. Kuhn's words: "… every

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[258] John. T. Ford, "John Henry Newman as a Context Theologian", *Newman Studies Journal*, **2**, no. 2, (2005): 74.
[259] John R. White, "Doctrinal Development and the Philosophy of History: Cardinal Newman's Theory in the Light of Eric Voegelin's Philosophy", *American Catholic Philosophical Quarterly, Journal of the American Catholic Philosophical Association*, **83**, no. 2, (2009): 218.
[260] Newman, 117.
[261] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 157.
[262] Newman, 118.

individual choice between competing theories depends on a mixture of objective and subjective factors, or of shared and individual criteria" also seem to agree with Newman.[263] There could also exist within the authority of the Church different and opposing testimonies. Newman declared this to be a part of the nature of doctrinal development: the individuality of the writers and their differences cannot be separated from the progress of ideas. Kuhn indicated that though this occurs in science, a consensus is eventually reached. He wrote "What one must understand…is the manner in which a particular set of shared values interacts with the particular experiences shared by a community of specialists to ensure that most of the group will ultimately find one set of arguments rather than another decisive."[264]

3.5 Doctrinal Developments Viewed in Relation to Doctrinal Corruptions

Newman next discussed the development of true doctrine and the characteristics they exhibit.[265] Before proceeding to describe them, he anticipated another objection: though the development of doctrine from the first century may seem natural and logical, it is nevertheless now corrupted from the original message of the early Church.[266] He listed seven characteristics, or as he called them notes, which would allow Christianity to discriminate between that which is a proper new idea and that which is a falsehood.[267] Gerard McCarren noted that in his original version, he called them *Tests* and only in his final version did he change them to *Notes.*[268] He indicates that these notes do not function individually, but should be considered as a whole. Further, he writes that rather than serve as proof of the correctness, they were brought as answers to objections against the actual decisions of authority.[269] In addition, McCarren states that the use

[263] Thomas S. Kuhn, *The Essential Tension* (Chicago and London: The University of Chicago Press, 1977), 325.
[264] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 200. From pages 122 up to and including 167, Newman furnished some specific doctrines to support his ideas in this chapter. For the sake of brevity, this discussion is restricted to his general theories and ideas.
[265] Newman, 169.
[266] Newman, 169-70.
[267] Newman, 171.
[268] Gerard McCarren, "Are Newman's "Tests" or "Notes" of Genuine Doctrinal Development Useful Today?", *Newman Studies Journal*, **1**, no. 2, (2004): 48-61.
[269] *Ibid.*, 57.

of these notes is negative because they are only a necessary but not sufficient condition.[270] He notes:

> As a result, the yield of a favorable application of the notes is simply that the possible doctrine is reasonable, in the broad sense of the word. The notes might show that it is not repugnant to reason, but that falls short of saying that it is a true development…In other words, a favorable application of the notes to a possible future doctrine would show that the question of its truth is worth further consideration, but little more.[271]

These tests do not aim to prove that a doctrine is genuine, but serve as a first barrier into whether any further consideration should be given in determining its legitimacy. McCarren also interestingly writes that "just because Newman found Roman Catholicism could make a reasonable claim to represent the faith of the apostles, one cannot assume that it is the only such representative."[272] Hence, these notes should not be taken as definitive, but a prospective doctrine tentatively passing these tests may give some assurance as to its validity.

By describing corruption as the breaking or disassembling of a system which is organised in some manner, Newman made the following statement:

> There is no corruption if it retains one and the same type, the same principles, the same organization; if its beginnings anticipate its subsequent phases; and its later phenomena protect and subserve its earlier; if it has a power of assimilation and revival, and a vigorous action from first to last.[273]

Newman observed a new idea's predictive power and its ability to grow. However, he seemed to ignore the social, political and historical changes or differences that may accompany this phase because if these factors were insignificant then there might not have been any need to write Chapter 3 to differentiate between proper, fit developments and corruptions – the reasons would be trivial. At best, they would be in the mind of a few who could be readily ignored. Newman noted "of course I do not deny the abstract possibility of extreme changes. The substitution is certainly, in idea, supposable of a counterfeit Christianity."[274] It is beneficial to list Newman's characteristics for distinguishing between corruption and good development of ideas. And it is also worth remembering David Streater's words when he remarked "he had therefore

[270] *Ibid.*, 58.
[271] *Ibid.*, 59.
[272] *Ibid.*, 58.
[273] Newman, 171.
[274] Newman, 171.

committed himself to a distinctive position, not as layman but as a leader in the Church."[275] He also notes that Newman, on account of becoming a Roman Catholic, brought a set of assumptions and biases which he (Newman) does not explicitly acknowledge, validating the words of Polanyi's who noted "our believing is conditioned at its source by our belonging."[276]

Hereafter Newman's chapters are interleaved with each of the characteristics so that these are illustrated with examples.[277] As noted, Chapters 6-11 will not be discussed in detail so as to concentrate on Newman's theories rather than specific examples or applications.

The first characteristic is *the preservation of type*. In all developments, there is a certain unity in the ideas as they progress. A scientific analogy is the notion by Popper that theories exist within a well-organised system so it is unlikely that there will be unwarranted innovations.[278] The metaphor presented by Newman was that a young bird does not become a fish, but matures into a bird.[279] An essence is preserved even if to the outsider this progression is not obvious. Popper made a similar remark with regards to science when he wrote:

> A severe test of a system presupposes that it is at the time sufficiently definite and final in form to make it impossible for new assumptions to be smuggled in. In other words, the system must be formulated sufficiently clearly and definitely to make every new assumption easily recognizable for what it is: a modification and therefore a revision of the system.[280]

Anthony Stephenson wrote of Newman on this point:

> The Essay is largely an exercise in training the reader to think of ideas in biological terms so that it becomes natural to him to see the difference between the humble beginnings of an idea and its grand final flowering as at once dramatic and yet, in its effect upon identity, negligible.[281]

However, Malcom Yarnell III believes this to be a misapplied metaphor because the early churches did not have the structure of Rome.[282] It is only in retrospect that this maturity took place.

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[275] David Streater, "Newman's Doctrine - Development or Deviation?," *Churchman* , **106**, no. 1(1992): 1
[276] Michael Polanyi, *Personal Knowledge* (London: Routledge, 1962), 322.
[277] The first note is matched with Chapter 6, the second with Chapter 7 and so on.
[278] Karl Popper, *The Logic of Scientific Discovery* (London and New York: Routledge, [1959] 2002), 50.
[279] Newman, 172.
[280] Karl Popper, *The Logic of Scientific Discovery* (London and New York: Routledge, [1959] 2002), 50.
[281] Anthony A. Stephenson, S. J. "Cardinal Newman and the Development of Doctrine," *Journal of Ecumenical Studies*, no. 3 (1966): 474.
[282] Malcom B. Yarnell III, *The Formation of Christian Doctrine* (Nashville, TN: B & H Academic, 2007), 119.

Another example by Newman was of a working professional who goes through a variety of completely unrelated jobs with each step allowing the person to overcome an obstacle beneficial to his or her ultimate role or current employment so that even though the outer parts might differ from the original, nevertheless internally, there is a cogency and coherence.[283] In short, true development or corruption cannot be discerned from its variation or lack thereof. Each person may individually consider a variety of philosophies which are disparate and disjointed, but this could be nothing more than visible differences of a hidden whole which have been present from the beginning.

For Newman, one cause of corruption is the refusal of doctrine to maintain its proper path.[284] This is in agreement to Lakatos who believed, with respect to science, that even though the external may change, an internal sameness, or as Lakatos would say, a hard core, remains.[285] The illustration presented by Newman is the state of the Church from the first to the seventh centuries. He described the heresies through these different stages of Christianity: the Gnostics, Nestorians, Donatists and Arians among others with their commonality being their hatred of the Church.[286] In order to preserve the purity of Christianity, Councils convened to denounced false teachings.[287] Newman gave explicit descriptions on how these heresies deviated from the Church's teachings. These would be subtle and profess to adhere to the creeds of Christianity, but there would be enough variation to be either repudiated by a Council, or some of the early Church Fathers. Despite these attacks, Newman believed that the true Church with its teachings, perseveres, continues and maintains its unity and original form even if the entire world around it does not.

The second characteristic listed by Newman is *the continuity of principles*. He again stressed the subjective nature in the way an individual receives and interprets an idea. He noted that "doctrines expand variously according to the mind, individual or social, into which they are received; and the peculiarities of the recipients are the regulating power, the law, the organization, or, as it may be called, the form of the development."[288] He also contrasted

[283] Newman, 173.
[284] Newman, 177.
[285] Imre Lakatos, *The Methodology of Scientific Research Programmes* (Cambridge, UK: Cambridge University Press, 1978), 48.
[286] Newman, 253.
[287] Newman, 305.
[288] Newman, 178.

doctrines with principles. Doctrines are based on facts, and these doctrines develop and are intellectual, whilst principles are ethereal in nature yet more permanent and ethical.[289] Kuhn, similarly noted for scientific progress, that paradigms are prior and more binding than rules.[290] And for doctrine, Newman seemed to suggest there are different levels by which doctrines and principles are developed and propagated.[291] Popper also indicated as much when he discussed scientific statements contained within a system. He made the claim that there are different levels of universality. Statements which are considered higher can be thought of as axioms. These are declarations which science takes as true and can be thought of as self-evident. All other statements are derived from them and have a "lower universality" because they are obtained through deduction. But here Popper would disagree with Newman because he (Popper) pointed out these lower-level statements are still universal and it is only in relation to these other statements that they are lower, but not in themselves. [292]

Newman believed that sometimes doctrines and principles are interchangeable in the mind of a person. In fact, a principle may become a doctrine and vice versa. Further, since "systems live in principles and represent doctrines,"[293] then this suggests that principles are value statements which underpin prescriptions for behaviour in doctrinal development. For instance, personal responsibility may take the form of Pelagianism or Arminianism.[294] Nevertheless, doctrines become clearer before principles and yet doctrines are born out of the operation of principles.[295] For Newman, principles are assumptions and they may lie deeper in the mind than doctrines. But for a development to be faithful, both principles and doctrines must be retained from the start.[296] Newman asserted the various Protestant denominations are merely applications of the same principle. If there were to be a change in a principle (something that Newman believed would not be true of faithful developments) then this would suggest the existence of a doctrine with new and different foundations. Such an occurrence would share some similarities with the notion of a Kuhnian revolution.

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[289] Newman, 178.
[290] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 46.
[291] Newman, 179.
[292] Karl Popper, *The Logic of Scientific Discovery* (London and New York: Routledge, [1959] 2002), 54-5.
[293] Newman, 178.
[294] Newman, 179.
[295] Newman, 180.
[296] Newman, 181.

The third characteristic is *the power of assimilation*. Newman argued Christianity has the power to assimilate things external to it.[297] This does not imply corruption of the original idea but there may be illustrations or instances of that same idea which occur elsewhere; in particular at the beginning where Newman believed it is more likely to be biased.[298] Laudan also noted research traditions can be similarly combined in science. He writes that: "there are times when two or more research traditions, far from mutually undermining one another, can be amalgamated, producing a synthesis which is progressive with respect to both the former research traditions."[299] Although synthesis and development are not equivalent, it is interesting to note that Laudan believes combining ideas can be thought of as progress in the sciences. This is not restricted to a singular notion or abstract explanation but is instead organised into different levels. McGrath denotes the concept of a "stratified reality" when he writes: "the critical realist perspective which informs a scientific theology insists upon the recognition of a plurality of levels within reality, each demanding its own distinctive mode of investigation and representation."[300] Newman believed that the stronger an idea, the more likely it is to make an impression in the minds of people, with the idea hence having a *unitive* power.[301] He listed two examples of this: the assimilating powers of dogmatic truth and sacramental grace. For dogmatic truth, Newman asserted Christianity has one truth, it is objective and all of its developments rest on dogmas which it cannot discard. It is not based on the individualistic whims or personal preferences but on what is and is not true. Sacramental grace is distinctly Roman Catholic and relates to the Church as an authority to dispense grace. To avoid the subjective human element, and because of the unsystematic and unclear nature of biblical truth, an "infallible" authority was needed.[302]

The fourth characteristic is *logical sequence*. An idea initially sits in the mind of a person where it is weighed, compared and viewed in relation to others. It is judged intellectually and

[297] Newman, 185.
[298] Newman, 187.
[299] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth* (London, UK: Routledge & Kegan Paul, 1977), 103.
[300] Alister E. McGrath, *A Scientific Theology*, vol. 3, *Theory* (London and New York: T&T Clark, 2003), 82. It is important to note that this view of scientific theology is one which McGrath advocates rather than this being a descriptive.
[301] Newman, 189.
[302] Malcom B. Yarnell III, *The Formation of Christian Doctrine* (Nashville, TN: B & H Academic, 2007), 122.

morally before being externalised and defended.[303] Logic is brought upon an idea where each step is carefully considered. At each rung, as the idea is being developed, it is done without much retrospection or looking too far ahead to where its final goal may be. Each statement is necessary to answer or solve a particular problem which arises along the way. It is only near the end that its entire logical sequence can be retrospectively seen.[304] Nevertheless, Newman warned against rationalism and took aim at Luther and his followers. Newman believed Luther elevated private judgment over dogmatic principle and justification over the sacramental.[305] An evidence of a doctrine which is a true development, as opposed to a corruption, occurs if when looked back on its past, it seems to have followed a logical sequence.[306]

Newman's fifth characteristic is *the anticipation of its future*. Ideas and their developments have a predictive power which can be gleaned from an early stage.[307] This strongly agrees with Popper's view of scientific progress. He wrote:

> If progress of science is to continue, and its rationality not to decline, we need not only successful refutations, but also positive successes. We must, that is, manage reasonably often to produce theories that entail new predictions, especially predictions of new effects, new testable consequences, suggested by the new theory and never thought of before.[308]

Kuhn expresses the same sentiment for science, but phrased it somewhat differently. He believed that the promise of a suite of problems with guaranteed results under a new paradigm is partly what attracts many to abandon the old paradigm.[309]

Newman's sixth characteristic is *the conservation action on its past*. When new developments or ideas appear, one is reluctant to correct or reject the past. Hence a distinguishing feature which separates an idea from corruption is that it will add to history rather than rewrite it.[310] This is in direct contrast to Kuhn, whose stance on revolutions leaves the

[303] Newman, 190.
[304] Newman, 190-1.
[305] Newman, 193.
[306] Newman, 195.
[307] Newman, 195-6.
[308] Karl Popper, *Conjectures and Refutations* (London and New York: Routledge, 2002), 329.
[309] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 37.
[310] Newman, 199.

possibility of a long-standing paradigm being overthrown by another.[311] Newman wrote: "a corruption is a development in that very stage in which it ceases to illustrate, and begins to disturb the acquisitions gained in its previous history."[312] He also listed examples such as: Christ taking human form did not take anything away from his divine nature.[313] Even the doctrine of the Trinity, rather than remove it, enhances the original truth of *divine unity.*[314] Popper made similar claims about science: science grows steadily, and slowly accumulates more knowledge. Popper called this the criterion of progress and it postulates that science continues to, and must, grow since otherwise it loses its character. Given that Popper is not merely concerned with the growth of scientific knowledge, but knowledge in general, his remarks are directly relevant when discussing doctrinal developments.

Newman called the last characteristic *chronic vigor*. Another feature of a true development as opposed to a corruption is that of duration.[315] He described a corruption as a type of accident or affection which leads to a crisis. It is short and rapid while a development is enlarged or grows in people's minds. Another type of corruption is what Newman called decay. These are stationary and do not progress in the manner that true developments do. Newman went further and explained that rational people are not inclined to make rapid changes or innovations for fear of running into difficulties later. Newman noted: "Revolutions are generally violent and swift; now, in fact, they are the course of a corruption."[316] Heresies are short-lived and move one way and then might unexpectedly turn another. They also lack consistency and more importantly they do not have a long shelf-life. Hence, in contrast to true developments, corruptions are known for their *transitory power.* This is not a concept Kuhn would agree with since revolutions not only occur, but are also necessary for growth.[317] Popper also disagreed and stated:

> Since I have used the word 'progress' several times, I had better make quite sure, at this point, that I am not mistaken for a believer in a historical law of progress. Indeed I have before now struck various blows against the belief in a law of progress, and I hold that even science is not subject to the operation of anything

[311] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 111-34.
[312] Newman, 199.
[313] Newman, 421-2.
[314] Newman, 423.
[315] Newman, 203.
[316] *Ibid.*, 203-4.
[317] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 92-111.

> resembling such a law. The history of science, like the history of all human ideas, is a history of irresponsible dreams, of obstinacy, and of error.[318]

Newman noted the longevity of the Catholic Church in the way it has managed to withstand attack after attack, and yet it was always evolving and developing new teaching. Newman asked rhetorically: if the church is corrupt, how is it that it has managed to survive for so long? It has weathered challenge after challenge and remained steadfast and strong. The idea by Newman in his *Essay* that corruptions do not last a long time either means that his definition of true development is wrong, or that he was wrong regarding Protestant doctrine being a corruption since it has now lasted 500 years. Assuming that Protestant doctrine is wrong, then questions arise as to whether longevity as an accurate discriminator of heresy and orthodoxy is correct. From a scientific viewpoint, longevity is also an inadequate measure of what true development looks like. Kuhn, who has written extensively on the Copernican Revolution, noted that the Ptolemaic geocentric model lasted around 1800 years.[319] Even heresies once thought to be extinguished during Newman's era like Gnosticism, are still prevalent in slightly different guises.[320] Towards the end of his *Essay*, Newman declared: "doctrine is where it was, and usage, and precedence, and principle, and policy; there may be changes, but they are consolidations or adaptations; all is unequivocal and determinate; with an identity which there is no disputing."[321]

More recently, McGrath also proposed a new model for discriminating between a heresy and orthodox doctrine.[322] He believed that the appearance of heresies was inevitable for two reasons. However, it is interesting that these two discriminators were also discussed by Newman, albeit if in slightly different terms, so McGrath was perhaps unknowingly revisiting well-worn ground. These two discriminators are: the underdetermination of a theory by evidence and the dynamics of reception theory.

For the first discriminator, there are a number of possible interpretations for which there is not enough evidence to determine which way a theological dispute might be settled. Here, time is not so much a factor but rather there is a lacking of information or data which is needed before sound judgment can be made. In this regard, Lakatosian philosophy would not reject such a

[318] Karl Popper, *The Logic of Scientific Discovery* (London and New York: Routledge, [1959] 2002), 293.
[319] Thomas S. Kuhn, *The Copernican Revolution* (Cambridge, Ma: Harvard University Press, 1970), 74.
[320] Cyril O'Reagan, *Gnostic Return in Modernity* (New York: SUNY Press, 2001).
[321] Newman, 444.
[322] Alister E. McGrath, *A Scientific Theology*, vol. 3, *Theory* (London and New York: T&T Clark, 2003), 229-36.

scientific proposition unless this proposition shows itself to be empirically progressive and its predictions can be corroborated.[323] Kuhn would probably also agree with this if the relevant paradigm promises puzzles which practitioners can eventually solve.[324] At this stage, if it's impossible to establish whether a doctrine is heresy or orthodox then both options should be left open. For Christianity, Newman would not believe that this is possible. The presence of an authority which distils and promulgates doctrine would prevent the alternative interpretations. Finally, note that the first two of his seven notes - preservation of its type and continuity of its principles - seem to parallel McGrath's theory of underdetermination.

The second discriminator describes the mechanisms by which a theory might enjoy some measure of popularity before it is discarded in favour of another as evaluation and reception progresses. For Newman, time was also important: orthodox doctrine must last in order to withstand the charge of heresy. It must enter public discourse, be properly assessed and then when it has at least been in existence for some time, it may be considered to be sound doctrine. In this case, the sixth and seven notes would appear to match McGrath's ideas with regards to the dynamics of the reception of theory: conservative action upon its past and chronic vigour. Here, the issue is not about the evidence or the proof needed but is about a certain insufficiency or limit within a person. The fault does not lie with the quality or the amount of evidence required but rather with the receptive faculties or the interpretative skills of a person or a community evaluating a theory.

For science, Popper agreed, and advocated a nihilistic approach when he wrote: "What we should do, I suggest, is to give up the idea of ultimate sources of knowledge, and admit that all knowledge is human; that it is mixed with errors, our prejudices, our dreams, and our hopes; that all we can do is grope for truth even though it be beyond our reach."[325] However, Newman was more upbeat regarding the fallible human mind:

> In time it will have grown into an ethical code, or into a system of government, or into a theology, or into a ritual, according to its capabilities: and this body of thought, thus laboriously gained, will after all be little more than the proper representative of one idea, being in substance what that idea meant from the first,

[323] Imre Lakatos, *The Methodology of Scientific Research Programmes* (Cambridge, UK: Cambridge University Press, 1978), 179.
[324] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 38.
[325] Karl Popper, *Conjectures and Refutations* (London and New York: Routledge, 2002), 39.

> its complete image as seen in a combination of diversified aspects, with the suggestions and corrections of many minds, and the illustration of many experiences … this process, whether it be longer or shorter in point of time, by which the aspects of an idea are brought into consistency and form, I call its development, being the germination and maturation of some truth or apparent truth on a large mental field.[326]

3.6 Final Remarks on Newman's *Essay* and Its Relationship to Insights from the Philosophy of Science

Newman's *Essay* is still highly regarded, however, his ideas have not gone unchallenged. Other theologians have questioned his views on doctrinal development. Here, recent approaches in the philosophy of science were compared with Newman's *Essay* thereby showing that there might be some correspondences in the way doctrine and science develop and grow. At times, Newman's ideas seemed to ring true with the formalist approaches of Popper, but on other occasions, he recognised that non-Christian and non-theological factors could influence the formation of Christian doctrine. Concepts from contextual approaches from the philosophy of science by the likes of Polanyi, Popper, Kuhn, Lakatos and Laudan were referenced, demonstrating the existence of analogies between Newman's thoughts on development of doctrine and models from the philosophy of science. It is hoped that the foundations laid down by this study will open and allow for more thorough discussion between Newman's *Essay* and models from the philosophy of science.

[326] Newman, 37-8.

CHAPTER 4

Hans Küng's *Paradigm Change in Theology*: Background and Limitations

4.1 Background

Hans Küng was the first theologian to systematically apply Kuhn's ideas to the study of the Christian faith. He wrote *Theology for the Third Millennium* in 1990.[327] Also, along with a number of other theologians, he published, in 1991, *Paradigm Changes in Theology.* [328]

In *Paradigm Changes,* whilst highlighting the strengths of Popper's falsificationism, he noted that connections between the natural science, history, the community of enquiry and the human subject must be taken into account. Citing the ideas of Kuhn, he remarked that new theories and hypotheses do not merely emerge through verification, but instead, new paradigms, defined as interpretative or explanatory models, are generated. This process is neither rational nor irrational and is more revolutionary in nature than evolutionary.

Küng provided reasons for applying the ideas of Kuhn, which were originally intended for the natural sciences, to theology. He started by showing there are some analogies between both disciplines. Küng listed six analogies between theology and the natural sciences.

The first is that like natural science, theology has a heavy reliance on tradition. After the gospels, the church fathers formulated and reformulated theology in what would be analogous to "normal science". There are textbooks, traditions and doctrines which progress slowly in order to advance theology and there is a tendency to reinforce the existing ideas and reject anything which might threaten to overthrow them. This is sometimes called confirmation bias and is defined as the tendency of people to favour information that confirms their beliefs or hypotheses.[329] Kuhn suggested the foundation for research is based upon previous scientific

[327] Hans Küng, *Theology for the Third Millennium* (New York: Doubleday, 1990).
[328] Hans Küng and David Tracy, eds., *Paradigm Changes in Theology*, Tr. by. Margaret Kohl (New York: Crossroad, 1991).
[329] Scott Plous, *The Psychology of Judgment and Decision Making* (New York: McGraw-Hill, 1993), 233.

achievements. Yet in order to look forward, science also looks at its past. This shows the subjectivity of research but also a submission to tradition. A requirement for transmitting knowledge is the acceptance of that which has already been proven. Michael Polanyi equated this to a master/servant relationship: "A society which wants to preserve a fund of personal knowledge must submit to tradition."[330]

The second analogy lies in making a distinction between normal development and crisis. Küng pointed out that most of the Catholic dogma asserts that theology develops in a piecemeal, organic manner. However, Küng noted Kuhn's classical example of Copernicus to show this process is not true of physics and asked whether Roman Catholic thought on this topic might also be incorrect with regards to theology. Küng further explained that one can find instances throughout the whole of the Christian church of paradigm shifts in the way people understood God. He described seven distinct paradigms. Before Küng, Pelikan had discussed that "it is possible to note that in the history of theology the contexts have not always been the same."[331] Pelikan recognised that there is an inextricable link between the history of the Church and the social and political order of the time. Furthermore, Pelikan also believed that these do not remain the same and have changed throughout the history of Christianity. While Pelikan saw five major divisions, Küng believed that seven distinct periods can be found in Christianity.[332] These paradigms are:

1. The primitive-Christian apocalyptic
2. The Ancient Church Hellenistic
3. Medieval Roman-Catholic
4. Reformation-Protestant
5. Protestant-Orthodox
6. Modern-Enlightenment

[330] Michael Polanyi, *Personal Knowledge* (London: Routledge, 1998), 53.
[331] Jaroslav Pelikan, *Historical Theology: Continuity and Change in Christian Doctrine* (London and New York: Hutchinson and Co, 1971), 120-8.
[332] Hans Küng, *Theology for the Third Millennium* (New York: Doubleday, 1990), 128,139-61.

7. Contemporary-Ecumenical.

One of the earliest issues the early Church had to deal with was the non-fulfillment of the imminent apocalyptic expectations. Christians had anticipated an early arrival of the kingdom of God. But this did not come, or at least did not come in the way many anticipated it would. This Jewish-apocalyptic model was quietly replaced and Hellenised. Still under the influence of Greek thought through some of the philosophical reflections of the early Church fathers like Origen, there emerged a theological model which was later further developed by the likes of Basil, Gregory of Nazianzus and Gregory of Nyssa in the third and fourth centuries. This became the model for Greek Orthodoxy. In the Eastern Orthodox churches, the idea of the "Holy Tradition" is one of a dynamic faith, yet with unchanging dogmas. The essence is the same even if its expression might evolve and grow.[333] In the West, the prevailing model for theology took a different turn: it was based upon the reflections of Tertullian, Cyprian and Augustine. Küng noted that for Augustine much of his reflections emanated as a reaction from the Donatist and Pelagian crises which were very prevalent in his day. These crises were not accepted by all and reactions against them were catalysts for the Protestant Reformation. Donatism grew out the teachings of Tertullian and Cyprian during the 4th century and taught that a priest's part in the sacraments was instrumental.[334] Pelagianism, named after the moralist Pelagius, taught the idea of unconditional free will and moral responsibility so that within every human being there exists the possibility of freely choosing good, and therefore God (and conversely the possibility of choosing evil.)[335]

Other examples of the influence of tradition can be found in the writings of Aquinas and Luther. Aquinas sought to incorporate the function of reason upon faith. Its rise and acceptance in Christian Europe was precipitated in turn by the acceptance of Aristotelianism. Michael Sherwin notes the crisis was brought upon by a challenge to Augustine's definition of charity, which led to an interest in matters regarding the nature of love.[336] Sherwin also describes the reasons for these questions being posed. He further emphasises the contextual nature of

[333] Timothy Ware, *The Orthodox Church* (London: Penguin Books, 1993), 195-96.
[334] Walter A. Elwell, ed., *Evangelical Dictionary of Theology*, 2nd ed. (Grand Rapids, MI: Baker Academic, 2001), 352.
[335] *Ibid.*, 897.
[336] Michael S. Sherwin, "Aquinas, Augustine, and the Medieval Scholastic Crisis Regarding Charity," in *Aquinas the Augustinian*, ed. Michael Dauphinais, Barry David, and Matthew Levering (Washington, DC.: The Catholic University of America Press, 2007), 181-204.

theological shifts throughout history, including the marriage of Louis VII, the establishment of monastic orders with members producing monastic love literature; and the emergence and application of dialectical and logical tools to the study of Scripture and Christian tradition. Luther sought to bring the Christian faith back to its biblical roots and its simple basic truths. According to Küng, he sought to give a critical account of the Christian faith. However, the Age of Enlightenment then arrived seeking to free science from unscientific and unfounded claims. Küng noted that at each turn, there is a period of uncertainty as one paradigm falls away and makes way for another. An example could be observed in Rome's influence. The more it aimed to assert dogmas like infallibility, the Church's magisterium etc., the more attacks it attracted, and eventually led to it being undermined through the Reformation. The real reason new paradigms are sought after is the prevailing, dominant model of the day, fails to answer some pressing questions. The way in which things have been understood no longer seem adequate. For example in the natural sciences, Küng maintained paradigm changes in theology were instigated because of a growing awareness of a crisis, so that "when available rules and methods break down, they lead to a search for new ones."[337] Kuhn described in more dramatic fashion what happens in the mind of a scientist when questions can no longer be answered in the current paradigm: "At this point, to a vastly greater extent than any other, the scientist will start to search at random, trying anything at all which he thinks may conceivably illuminate the nature of his difficulty."[338]

The third analogy is a natural consequence of the previous one. Although there is a growing awareness of a crisis where the current model is in some way insufficient, a change in paradigms only takes place when there is a new one to replace it. Küng noted this is a change of course rather than a mere correction. He illustrated this point by mentioning several examples throughout the history of the Christian church. One of those is how the early apocalyptic paradigm, which was itself a change from Judaism, was transformed into a Hellenistic view of Jesus.[339] He suggested the divide might not have been as great or the gap as wide as imagined. There is evidence that perhaps there was diversity in the Jewish religious forms with the notion

[337] Hans Küng and David Tracy, eds., *Paradigm Change in Theology*, Tr. by. Margaret Kohl (New York: Crossroad, 1991), 20.
[338] Thomas S. Kuhn, *The Essential Tension* (Chicago and London: The University of Chicago Press, 1977), 203.
[339] Troels Engberg-Pedersen, Ed. by *Paul Beyond the Judaism/hellenism Divide* (Kentucky: Westminster John Knox Press, 2001), 24,30.

that Judaism represented particularism and Hellenism symbolised universalism, though these might not be as neatly divided as previously thought. Hence, caution must be exercised when paradigms are discussed in theology. In the apocalyptic paradigm, Jesus Christ was the centre of salvation, whilst in the Hellenistic era, the notion of God instructing the sinner in a person's own sinfulness and of the need for a saviour were prominent due to the influence of Clement and Origin. Influenced by the controversies in his time, Augustine introduced new ideas regarding original sin, predestination, and the nature of the relationship of Father, Son and Spirit.[340]

The fourth analogy is that in order for there to be change there must be a struggle or a fight. Here, Küng was alluding to the subjective matters which lead to a paradigm change, mentioning among others Augustine's *Confessions* and Luther's writings. Küng made four observations as he related these struggles by particular theologians at particular times in history. There are a number of factors which Kuhn considered and which Küng believed apply to theology. Firstly, both theologians and natural scientists have doubts of faith. There might be times when the traditional or current system might let down the theologian or scientist and he or she has to look for something new. Secondly, there are non-scientific or secondary factors which are influential in effecting a change of a paradigm. There is a mixture of objective and subjective influences; individual and sociological factors, which might lead to a new paradigm.

It is interesting that the impact of religious convictions was not observed by Kuhn. In particular, Copernicus, Newton and Faraday among others, had religious beliefs which were not discussed by Kuhn with regards to paradigms. The fourth observation deals with the incommensurable nature between an old and a new paradigm. According to Kuhn, although the new paradigm is able to account for the problems that the old paradigm was able to solve, those who prefer the old paradigm cannot truly engage in conversation with those who prefer the new paradigm. A sort of conversion or "leap of faith" must take place in order to leave one paradigm for another, meaning objective reasons are necessary but not sufficient. This allows for freedom by rejecting scientific and (therefore theological) authoritarianism.[341] A consequence of this impasse is that conversations between both camps take the form of proselytising via persuasion

[340] Hans Küng and David Tracy, eds., *Paradigm Change in Theology*, Tr. by. Margaret Kohl (New York: Crossroad, 1991), 22.
[341] Norman Jackson and Pippa Carter, "In Defence of Paradigm Incommensurability", *Organization Studies*, **12**, no 1, (1991): 109-127.

and argumentation that necessarily involve non-objective factors. However, the new paradigm does not solve all the problems. It may answer some questions the old paradigm did not adequately resolve but issues may still remain. Just like the scientist, the theologian must make a commitment without knowing all the answers. The last observation is that the beginning of a new paradigm always starts with only a few people accepting and adhering to it. A further interesting observation by Küng is the role age plays in the development and acceptance of a new paradigm. He noted Origen, Aquinas and Luther were young men when they made their mark in Christendom and believed the reason for this is the reluctance by the older scientists, and hence also theologians, to accept new ways of thinking and understanding. Küng asserted that part of the reason for the eventual widespread acceptance of a new paradigm is because those that hold on to the old framework eventually die out and with them the former paradigm. Named after the famous physicist who first suggested it, this is also known as the Max Planck effect[342]. These observations led to the following analogy drawn by Küng: there are non-scientific factors for the acceptance of a new paradigm. This means the transition to a new paradigm cannot be purely described as rational.

Küng is also keen to explore what happens when natural science and theology face a crisis, i.e., what is the way out of the crisis? How is intransigence between the old and the new paradigms resolved? Küng said this can take place in three distinct ways.[343] The first is with the old paradigm being subsumed into the new. The old paradigm is integrated so that normal science can incorporate the new model. The second possibility is that the new model essentially takes over from the old. New ways of understanding are recorded and what was once thought of as pioneering and novel, eventually becomes tradition. Küng remarked that history is sanitised and rather than declaring the old dead, it is written that science has "evolved." David Hull explored this and its related ideas by noting that even here there is a subjective element at play in the scientists' minds: with those who believe that science is gradual and cumulative against others who maintain the emphasis on scientific revolutions.[344]

[342] Randy Allen Harris, "A Note on the Max Planck Effect", *Rhetoric Society Quarterly*, **28**, no. 4 (1998): 85-89.
[343] Hans Küng and David Tracy, eds., *Paradigm Change in Theology*, Tr. by. Margaret Kohl (New York: Crossroad, 1991), 27-9.
[344] David L. Hull, *Science as a Process: An Evolutionary Account of the Social and Conceptual Development of Science* (Chicago: The University of Chicago Press, 1988), 2.

The seven distinct paradigms in Christian history outlined by Küng need to be discussed in more detail.[345] Though the focus in this thesis is the growth, progress or decline of Christian doctrine, such an overview helps the reader understand the prevailing social and cultural context in which particular teachings or doctrines would have thrived or struggled at the time, and perhaps even why they have succeeded when others had not. Laudan also warned against merely focusing on an idea while ignoring interconnections with other ideas. Much like Kuhn's notion of a paradigm being a "constellation of beliefs", Laudan wrote that in order to understand how someone uses an idea,

> we must see how he uses it, how it functions for him, in a broader framework of convictions about the world … [And], here are other, even more serious ways in which the focus on single ideas puts acute obstacles in the way of historical analysis. As we know, ideas change and evolve. Accounting for such changes must be one of the central tasks of the history of ideas. Such changes can only be explained by looking at the shifting position of an idea within a broader conceptual network which is undergoing continuous modification.[346]

If Kuhn is to be labelled a relativist then it is at least important to know what the move away from one paradigm to another really means. If nothing is fixed and things are in a constant state of flux, then the last departure point is of great importance. By giving an account of the surrounding factors that have influenced a particular doctrine, the magnitude of any shift or the manner in which it arose, as well as its revolutionary nature, can be better understood. Such a survey provides the context and foundation through which particular doctrines should be analysed and discussed.

[345] Note that although Küng outlined the history of Christianity in seven epochs, he did not go into much detail in describing each of them. Hence, other sources, like Pelikan, Gonzales and Olson are used.
[346] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth* (London, UK: Routledge & Kegan Paul, 1977), 181.

4.2 Detailed Description

4.2.1 The Primitive Christian Apocalyptic Paradigm

Early Christianity cannot be decoupled from the Jewish thought and religion that existed at the time. Christian preaching, as recorded in Acts, mostly began in Jewish synagogues and drew not only Jews, but also a large number of Gentiles.[347] There was a transition from a sect, towards a larger Greco-Roman world. However, in the beginning at least, the Jewish hopes and ideas of who God was were the same as for the early Christians. The Jews were a people of the Law and everything they did was understood through the lenses of the Torah. Gonzalez writes:

> Through the passage of years and of patriotic struggles, the law became the symbol and bulwark of the Jewish national spirit. With the decline of the prophetic movement, and especially after the destruction of the temple in A.D. 70, it came to occupy the center of the religious scene.[348]

There was a diversity of Jewish sects with energy and zest fuelled by the different interpretations. The Sadducees and Pharisees did not comprise all of first century Palestine Judaism. In fact, there was at least one other group called the Essenes. They had eschatological and purist leanings, and considered themselves to be people of the New Covenant. They were part of a wider circle of Jewish religion in which apocalypticism was predominant. The main tenet of apocalypticism can be described as "a cosmic dualism that sees in the present the beginning of the final struggle between the forces of good and those of evil."[349] For this community, even matrimony was discouraged and a strong emphasis was placed upon being clean and separated from the unclean. Transgressions were severely punished and could include death. The thoughts of this particular community and their beliefs are well-known because of the Dead Sea Scrolls. The Essenes' texts, which are particular to their way of life, include the War Scroll. Robert Royalty notes that this scroll details "the expectation of a final battle against the Kittim (Romans) and other Jews led by Michael and the angels."[350]

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[347] Everett Ferguson, *Church History, vol. 1, From Christ to Pre-Reformation* (Grand Rapids, MI: Zondervan, 2005), 31.
[348] Justo L. Gonzalez, *A History of Christian Thought* (Nashville and New York: Abingdon Press, 1970), 1:29.
[349] *Ibid.*, 34.
[350] Robert M. Royalty, "Apocalypticism in Early Christianity", *Encyclopedia of Ancient History* (Malden, Oxford, West Sussex: Wiley-Blackwell, 2012), online.

In the same article, Royalty also writes that earlier scholars attribute the birth of apocalypticism to Persian influence after the Babylonian exile; and thus outside of Jewish traditions. Hanson, who penned *The Dawn of the Apocalypse* in 1975, believed the sources are closer to Hebrew tribal mythologies, monarchical theology and prophecy. Hanson, according to Royalty, also demarcated between "prophetic eschatology" and "apocalyptic eschatology." The former consists of God acting through humans to accomplish his goals, while in the latter, God acts through other-worldly beings.

However, though apocalypticism was a predominant topic in early Christianity, it was not the only view. Based primarily on particular interpretations of the Revelation of John, Loyalty remarks:

> There are in fact multiple strands in this complex worldview including ancient mythol-ogies and the dualistic religions of Mesopotamia, Israelite traditions of Yahweh as warrior, the oracles of judgment and the "Day of the Lord" in Amos and other eighth century prophets, and Wisdom traditions. Apocalyptic politics are straight forward: God will overturn the social order and establish anew realm of peace and justice. The current regime is therefore evil (Qumran, John of Patmos) or temporary (Paul, Justin Martyr).[351]

There were other texts which influenced early Jewish Christianity, including Daniel, and the Deutero-canonical books: I Enoch and the Apocalypse of Baruch. Hence, though most of these sects thought of some possibly apocalyptic event, it is more likely there were different expectations in how and when these would take place. There is a particular focus on the Essene community, which is understandable in light of the vast discovered literature depicting their way of life and beliefs. However, this representation is rather disproportionate to the plethora of beliefs and ways of understanding which existed in early Christianity. The core of apocalypticism declares that:

> The present world – or age – is ruled by the evil power; but the time approaches when, after a mighty battle accompanied by cataclysmic events, God will conquer evil and establish a new age in which he will be present and rule over the elect – usually a predetermined number. Meanwhile the oppressed faithful find strength and consolation in the knowledge that the end of their suffering is at hand.[352]

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[351] *Ibid.*

[352] Justo L. Gonzalez, *A History of Christian Thought, vol. 1, From the Beginnings to the Council of Chalcedon A.D.*, 451 (Nashville and New York: Abingdon Press, 1970), 34.

The belief in the imminent return of Christ and a destruction of the world gave hope to those who felt their lot in life was one where every day was a struggle. Gonzales notes that religion was becoming more personal: the destruction of the temple began a move away from temple worship and into an understanding of the Law which would be both ceremonial and practical for everyday living, in particular for the Pharisees. They are often derided for their legalism in the New Testament, but Gonzales believes that unlike the Sadducees, the Pharisees attempted to give meaning to religion. Against the backdrop of all these different sects and in trying to understand the eschatological implications presented, Palestinian Jews were under the rule of Rome. A hope for a time when being under the dominion of a foreign power would come to an end, would have given the Christians in Palestine a great deal of fervour and impetus. However, even among the writings of Mark, Luke, Paul and all the way to John in Revelation, their foci on the end times are different. Mark focuses on false prophets and teachers; Luke, on the condition of the Church; while John was scathing of Rome and its imperial rule, with his gospel emphasising the work of the Spirit within the community.[353] Hanson wrote extensively about this particular time in Christian history. As the only paradigm where the canon of the New Testament was still unfinished, doctrine is very much dynamic and dramatic. The focus is much more on what Jesus does than on who he is.[354] The nature of this development, according to Hanson, is simply the move from eschatology to Christology. In light of the Parousia not eventuating as the early Church had expected, there has been a shift towards understanding the nature of Christ. However, it is also clear from Paul's letters and the gospels by Mark and Luke, that there was a strong expectation that Christ would come again, if not in their lifetime, then certainly in the not too distant future.[355]

This period of early Christianity was heavily focused on eschatology and even with apocalyptic warnings, prophecies and the emphasis on purity, there were a myriad of views, sects and interpretations. Rather than there being a predominant view or teaching, a plurality of opinions and understandings meant even Christians within a Palestinian Jewish background would inevitably disagree, and perhaps even dismiss other professing believers if they did not

[353] Robert M. Royalty, "Apocalypticism in Early Christianity", *Encyclopedia of Ancient History* (Malden, Oxford, West Sussex: Wiley-Blackwell, 2012), online.
[354] R. P. C. Hanson, *The Continuity of Christian Doctrine* (New York: Seabury Press, 1981), 37.
[355] *Ibid.*, 36-8.

strictly conform to their way of living. Despite these differences, Christianity thrived and from these tenuous beginnings, Greek thought would influence and leave its mark on Christianity. To a certain extent, the redefinition of Christ as the *Logos* played a significant part in that, with Greek philosophy's emphasis on the permanency of truth being the catalyst for the next paradigm shift.[356]

4.2.2 The Ancient Church Hellenistic Paradigm

The failure of Christ in not meeting the expectations of his second coming soon after his ascension shows a development of doctrine. According to Hanson:

> It is the development of a doctrine of incarnation, whose materials can be found in other parts of the New Testament besides the gospel of John, but which only finds its actual realization in that gospel and in the literature of the second century. It is the development of a doctrine of a Person of Christ, and it is the beginning of a specifically Christian doctrine of God. Doctrinally it represents a most significant change from the early eschatological estimate of Jesus.[357]

Christianity was faced with a growing number of heresies prompting apologists to defend its truths in the 2nd . They used Greek philosophy and adopted many ideas from Platonism and Stoicism to strengthen the claims of the Christian faith. Central to Greek philosophy was monotheism. Olson writes:

> Greek philosophy rejected the polytheism of popular religions as well as the myths and initiation ceremonies of the mystery of religion … most educated and thoughtful people of the empire considered "true doctrine" to include belief in a single deity whose exact identity is beyond human knowledge but who shaped the universe and rules over it as a kind of benevolent and just despot.[358]

Further, the translation of the Old Testament into Greek, became known as the Septuagint and allowed the introduction of other Greek texts which were not originally in the Hebrew canon of Scripture. Origen assumed the canon should be broader than merely the Old Testament and defended the addition of New Testament Greek texts. The result of this broadening for which manuscripts should be considered or included, led many to believe that for the Old Testament there was some "fluidity in defining its exact limits and using some other related books

[356] *Ibid,* 46-7.
[357] R. P. C. Hanson, *The Continuity of Christian Doctrine* (New York: Seabury Press, 1981), 45.
[358] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 56.

circulated in Greek and in the translations dependent on it."[359] Similarly, Pelikan wrote that "Christian writers against paganism took over arguments that have been standard in the apologias of Judaism, as well as other arguments from Greek philosophers."[360]

Stoicism and Platonism suggested the universe was ordered and its motion was on an orderly course. The force of Greek influences cannot be underestimated; it was the predominant language, education, literature and philosophy of the time. These cultural factors were not only in the eastern Mediterranean area under the Byzantine Empire, but also throughout Rome. Its philosophy provided the "vocabulary, ethical assumptions, thought world, and intellectual options with which Christian thinkers worked"[361] This was not merely confined to learned apologists but also to Hellenistic Jews who mixed more easily with Gentiles.

Greek influence was not just limited to rhetoric and apologetics. People were guided by a mixture of Roman legal and Greek societal norms. Ferguson notes:

> Thus in matters as varied as customs at dinner parties, at weddings, and at funerals, Christians lived within the framework of existing ways of doing things. Laws of marriage and of inheritance and established distinctions of social classes provided the framework for family life and social relations.[362]

The reason for the strength of Greek culture was due to Alexander's conquests around BC 300. Before Christ, Greek thought was exclusivist, but Alexander's exploits had put an end to that. Gonzalez notes that Greek thought had moved away from the introspective and inward-looking philosophy that existed around Plato's time and towards the participation of the individual in society.[363] The Platonic ideal of Good was attributed to a creator. This idea influenced Christian thought and instead of this Good being an ethereal entity, it now became an ontological feature of the creator. However, the biggest influence of Greek philosophy upon Christianity was Stoicism. The Stoics maintained the idea that the universe is governed by a reason or Logos. This reason is imprinted and present in every structure and it is because of this

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[359] Everett Ferguson, *Church History, vol. 1, From Christ to Pre-Reformation* (Grand Rapids, MI: Zondervan, 2005), 113-114.
[360] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 1, The Emergence of the Catholic Tradition (100-600) (*Chicago and London: The University of Chicago Press, 1971), 27.
[361] Everett Ferguson, *Church History, vol. 1, From Christ to Pre-Reformation* (Grand Rapids, MI: Zondervan, 2005), 29.
[362] *Ibid.*, 29.
[363] Justo L. Gonzalez, *A History of Christian Thought, vol.1, From the Beginnings to the Council of Chalcedon A.D. 451* (Nashville and New York: Abingdon Press, 1970), 46.

that humans are in turn able to know, reason and understand. For the Stoics, reason permeated the way life was to be lived, and guided ethical and moral behaviour. Again, Greek philosophy tended to be exclusivist and this also applied to Stoicism. Reason was extolled above everything else and the consequence was for there to be two distinct groups: the foolish and the wise. However, the austerity of the Stoics reinforced and provided a defence of Christianity.

Aristotelianism, Skepticism and Epicureanism were also prevalent in pockets of society. However, their impact was smaller, and much less significant. Instead, the mixing and combining of religions was the norm. Philo was instrumental in merging Greek philosophy to monotheism. He sought to integrate the idea of a single, all-powerful creator into Greek philosophy. After observing the Greek monotheistic beliefs fitting neatly with the God of Judaism, he combined and thereby strengthened both systems of thought which ultimately benefitted the early Christian apologists. During that time, syncretism was widespread and despite the influence of Greek thought, polytheism and mysticism were rife. The number of belief systems, religion and esoteric practices present were many and varied. Further, Christianity having gained some strength from the adoption of Greek philosophy, created a potential down-side. Gonzalez writes: "In this fashion a bridge was erected between the highest moral code of that age and Christian doctrine, but at a price – the casting of doubt upon the uniqueness and pristine newness of the Christian message."[364] Olson, commenting on religious plurality, also notes:

> The empire was rife with mysterious religions – secretive initiation cults full of elaborate myths about dying and rising gods and paths to immortality through secretive initiation involving such things as being baptized in the blood of a slaughtered bull. There were also the occult philosophies of various magicians such as Apollonius of Tyana and Pythagoras, whose followers banded together secretly to put into practice their paranormal powers and study esoteric meanings of numbers and heavenly bodies. Then there were various temple ceremonies and myths about the Greek and Roman pantheons of gods and goddesses of Olympus such as Zeus and Apollo and Diana.[365]

Since Stoicism and Platonism were seen as superior, their tacit support of Christianity meant apologists had allies which led to the surpassing and defeat of other religions. Through the development of the doctrine of the Logos and the stress of leading moral and ethical lives, Greek philosophy aided the development of doctrine. Greek thought kept strong ties in the Eastern

[364] *Ibid.*, 51-2
[365] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 56

Orthodox churches, though its influence later diminished in the West. The Eastern Church's emphasis on liturgy, worship and its disagreements on matters of icons, the person of the Holy Spirit, and Monothelitism (Christ has one will but two natures) with Rome meant a schism between the East and West ensued.[366] Although, the longest disagreement between the East and West's disagreement is usually thought to be centred on the person of Christ, the most vigorous arguments seem to be regarding the use of images in Christian worship and tradition.[367] This split led to the next paradigm which will now be discussed.

4.2.3 The Medieval-Roman Catholic Paradigm

During the time when Greek culture influenced Christianity, and up to when the Medieval- Roman -Catholic paradigm dominated Christian thought, there were a number of crises and conflicts. Much of this helped shaped Christian doctrine and further refined teachings on the nature of the person of Christ, the Trinity, and in exposing and refuting heresies through the establishment of Councils. Seminal church figures such as Augustine and Athanasius stood up against false teachings to defend the Church, and in the process distilled and developed teaching. Differences among Christians also arose, leading to a split in the Church between the East and the West. The Eastern Orthodox Church traced its origins from the previously mentioned Hellenised paradigm, while the West eventually became the Roman Catholic Church leading to the creation of two traditions. Küng identified Roman Catholicism as significant enough to warrant its own paradigm. It is mainly in the West where the Church underwent further changes with Olson crediting the Scholastics with reviving and enthroning theology where "after a long drought of creative Christian theology, a new flowering of intellectual reflection on God and salvation began in the West in the eleventh century."[368] Similarly, Pelikan wrote:

> His [Augustine] speculations about the "traces of the Trinity" in the human mind were the outstanding example of faith in search of understanding. Yet the thinkers of the twelfth century went well beyond such speculations in their investigation of

[366] *Ibid.*, 291.
[367] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 2, The Spirit of Eastern Christendom (600-1700)* (Chicago and London: The University of Chicago Press, 1974), 91.
[368] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 311.

> the role of understanding and reason in relation to faith and revelation, and they were aware that in doing so they were engaged in an enterprise for which there were very few precedents in the writings of the church fathers. It was not until the Christian tradition stood virtually unchallenged that it could undertake the task of determining how much of its contents could be known without faith.[369]

This period also saw the emergence of universities from reforming monasteries. Initially, they were a gathering of independent theologians from the schools of great cathedrals and monasteries. From these humble beginnings, a new kind of theology was being forged. Known as Scholasticism, it emphasised that "reason could, with the help of God's grace, discover the answers to virtually every conceivable question of any real importance."[370] If the Crusades reflected a desire to expand the reign of God, then the establishment of universities revealed a passion to understand the word of God. Charlemagne dreamt of a Christian empire and opened up opportunities for study by establishing a decree that every monastery must have a school.

Similar to the previous paradigm, reason and logic were highly valued with irrational propositions being quickly dismissed. Implicit in scholasticism was the assumption of doctrinal unity, with any apparent contradictions being able to be resolved from the examination of texts, and the making and reading of its commentaries. Three characteristics can be observed from Scholasticism:[371]

1. It embraced human reason as the means to gain knowledge, even within theology.

2. It aimed to understand the relationship between non-Christian philosophies and divine revelation.

3. It introduced a style of teaching which fostered the posing of questions and then discussed possible objections and points in favour before coming up with a solution or answer. As Ferguson notes, "the method involved presenting a problem (*quaestio*),

[369] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 3, The Growth of Medieval Theology (600-1300)* (Chicago and London: The University of Chicago Press, 1978), 260.
[370] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 312.
[371] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 312-313.

> stating arguments for and against (*disputatio*), and proposing a solution (*sentential*)."[372]

Two well-known figures from this era are Anselm and Aquinas. Their interest centred on natural theology with Anselm seeing no contradiction between faith and reason. He attempted to demonstrate certain propositions of faith such as the Trinity, original sin, and atonement through the use of reason alone.[373] Further, in refuting heresy, Anselm would also use philosophy and reason, besides Scripture, to defend the Christian faith.[374] On the other hand, much like the early Church, Aquinas tapped into Greek philosophy so that even though there is a clear distinction between philosophy and theology, there is no contradiction. Reason and revelation are both sources of knowledge, but different in their methods for searching after truth. Instead of Platonism and Stoicism, Aquinas delved into Aristotle's work. Like Anselm, he refused to pit faith against understanding; but unlike Anselm, he believed understanding can come without the aid of faith. In this regard, Anselm became a presuppositionalist, attempting to understand a heretic's assumptions before refuting them. He also maintained faith can be strengthened through reason. Gonzales notes:

> It is necessary to keep in mind that Anselm the theologian is always Anselm the believer, so that he already believes what he attempts to prove. The purpose of his work is not therefore to attain unto faith through reason, but simply to show the error of the unbeliever and to enrich and deepen the faith of Anselm himself.[375]

Aquinas, however, attempted to make a distinction between the natural and the supernatural. He aimed to show that a type of knowledge of God can be obtained without presupposing the Christian faith.[376] The main controversy with Aquinas and his work, is not that non-Christians can know something about God, but rather, it is Aquinas' thought that non-Christians can know God without the aid of grace. Natural theology is a double-edged sword for the Christian. As Peter Byrne writes:

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[372] Everett Ferguson, *Church History, vol. 1, From Christ to Pre-Reformation* (Grand Rapids, MI: Zondervan, 2005), 424.
[373] *Ibid.,* 424.
[374] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 3, The Growth of Medieval Theology (600-1300)* (Chicago and London: The University of Chicago Press, 1978), 256.
[375] Justo L. Gonzalez, *A History of Christian Thought, rev. ed., vol. 2, From Augustine to the Eve of the Reformation* (Nashville, TN: Abingdon press, 1971), 159.
[376] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 336.

> Within Christian theology it is customary to acknowledge the existence of some form of natural theology. Yet this natural knowledge of God presents both a dilemma and a problem to the Christian version of history… [on the one hand] the more it appears to be a new and local disclosure and the more arbitrary and capricious the God behind it appears to be. Yet if its message is made reasonable by being likened to ancient and long known truths, it will seem far from unique.[377]

This is possible because every single human being is made in the image of God. Aquinas never maintained salvation cannot be achieved without a divine revelation from God but Anselm (together with Abelard) believed that God's triunity can be discovered both by belief and rationality (and the reason why people cannot discover it rationally is because of the stain of sin). Aquinas made a much stronger demarcation, so that "reason has a sphere distinct from grace and revelation – nature. Likewise, faith has a sphere distinct from and above nature – supernature."[378] The greatest contribution Aquinas made in Christian theology was in seeing truth everywhere. Although he aimed to rebuild Christian theology according to Aristotle, he also used "new Greek, Jewish, and Arabic sources."[379]

4.2.4 The Reformation-Protestant Paradigm

It is important to recognise that displeasure and dissatisfaction with the Roman Catholic Church did not begin with Luther. Pelikan argued that there was doctrinal pluralism in the later Middle Ages. He wrote that "there was a pregnant plurality of fourteenth-century thought which was recognized by thinkers at the time and which continued into the fifteenth century and well beyond."[380] Many signs were leading to a revolt against the prevailing ruling hierarchy of the Church. According to Olson:

> European culture was in a state of turmoil throughout the fourteenth and fifteenth centuries. Nationalism was on the rise, the bubonic plague was decimating the population, and the church was falling into ruin … In such a milieu of cultural and religious confusion and chaos, it is no wonder that some Christian theologians began to align themselves more with a king under whose protection they could flourish as they called for reforms in both church structure and theology.[381]

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[377] Peter Byrne, *Natural Religion and the Nature of Religion* (London and New York: Routledge, 2013), 12.
[378] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 337.
[379] Everett Ferguson, *Church History, vol. 1, From Christ to Pre-Reformation* (Grand Rapids, MI: Zondervan, 2005), 488.
[380] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 4, The Reformation of Church and Dogma (1300-1700)* (Chicago and London: The University of Chicago Press, 1984), 10.
[381] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 348.

This was a time with a great deal of political and cultural upheaval. A wave of insecurity and fear pervaded Europe, with kings often pitted against the established and almost imperial rule of the Church. Rumblings of discontent appeared before Luther's disputations which occurred during the 200-year transitional era between the late Middle Ages and the Reformation. William of Ockham and Erasmus reacted against papal authority, and while Wycliffe was well-known for translating the Bible, his fame also lay in his ideas about salvation and the Church.[382] Ockham's nominalism perhaps paved the way for Luther. In direct opposition to Platonic ideas, and thus Aquinas , nominalism "referred to a position that a class concept was only the name given to the common characteristics of members of the class and had no real existence of itself."[383] The absence of "universals" meant reason could no longer be extolled. Instead it was the will which then "caused" reasoning. Human beings could no longer be said to be in possession of a faculty that could arrive at the existence of God on its own. Unbeknownst to Ockham, this planted a seed for the Reformation's call for Sola Scripture: the idea that the Bible contains all necessary knowledge for salvation and holiness. Hence Ockham denied "the invisible essence of the Church that was supposed to reside in the pope and his appointed bishops, archbishops and cardinals and instead identified the church with the individual believers who compose it."[384]

On the other hand, Wycliffe arrived at many of the same conclusions as Ockham but through different means. He was a realist and believed the Pope was corrupt. He maintained the Church should be ruled by the people of God rather the hierarchical structure of the Church. Thus, while Ockham was mainly driven by philosophy in reaching the views that he had, Wycliffe was more influenced by the politics and the growing undercurrent of discontent with the Church's ruling authority. He strongly criticised the corruption, power and abuses within it, as well as condemning the popes of the time. He also argued against specific doctrines, in particular transubstantiation: the Roman Catholic notion that the bread and wine during the sacrament of the Eucharist (or Communion) literally become the blood and flesh of Christ. His proposal stated that the bread and the wine remain just that and instead, the Spirit of God enters

[382] *Ibid.*, 349.
[383] Everett Ferguson, *Church History*, vol. 1, From Christ to Pre-Reformation (Grand Rapids, MI: Zondervan, 2005), 425.
[384] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 356.

those elements. This concept would later form the basis of Calvin's view that Christ was in the Eucharist.[385] For Calvin, the bread and wine were signs; "the kind of signs with which reality was joined."[386] Principally, Luther's disagreements with Rome centred on man's salvation. Paul Althaus writes that "the doctrine of justification is nothing else than faith in Christ, when this is properly understood. This faith has comprehensive and exclusive significance. It excludes all self-trust in matters of salvation."[387]

Another influential figure for the Reformation movement was Erasmus. He was a thinker who refused to be shackled. Apart from criticising the outward shows that existed at the time, such as pilgrimages, relics and asceticism, he is mostly known for the production of a Greek New Testament.[388]

During the late 14th century, there was also a revival in Christianity for mystical piety. This was not meant to oppose the ruling authority of the Church, but the implications of having a more personal and introspective way of living the Christian life meant a reaction from Rome was as predictable as it was forthright. In particular, there was strong backlash against the promulgation of the practice of mutual confession of sins which was believed to undermine the ecclesiastical sacrament of penance.

Hence, there was more than one factor and indeed more than one person that paved the way for the revolutionary work of Luther. There was the political and cultural instability pervasive in Europe, not to mention the ravaging plagues and power struggles between popes and kings. There were also other forces at play that specifically targeted the way Christianity was being taught. Indeed, there was a search for reform throughout Europe. In some countries with more fervour than others, there was a stronger emphasis placed in spiritual life than ascetic rules and rituals. Luther and his disputations caused a commotion the ripples of which are still felt to this day. In making the ultimate authority of Christianity the Bible and the Bible alone, a wave of reform was extended by Calvin and Zwingli, who in turn undermined the power of the Roman

[385] *Ibid.*, 359.
[386] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 4, The Reformation of Church and Dogma (1300-1700)* (Chicago and London: The University of Chicago Press, 1984), 186.
[387] Paul Althaus, *The Theology of Martin Luther,* Tr. by Robert C. Schultz (Philadelphia: Fortress House, 1966), 225. Luther will be discussed extensively in the next two chapters.
[388] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 5, Christian Doctrine and Modern Culture (since 1700)* (Chicago and London: The University of Chicago Press, 1989), 306.

Catholic Church. This placed a new emphasis on the importance of faith as a means for understanding, and attempted to restore what had been undercut by the medieval scholastics. A reaction against the supremacy of reason perceived to be pitted against faith during the Middle Ages led to a repudiation of many of Aquinas ' ideas and his contemporaries' intellectualism. As well as criticising the practice of Indulgences and after having a mystical experience, Luther stressed the importance of divine revelation. He elevated it higher than his immediate predecessors thereby breaking ranks with Rome and establishing a new model by which Christianity should be understood and lived by. This led to a reaction from Rome called the Counter-Reformation, leading to another religious battle. But even within the Protestants, there were growing concerns that fresh challenges by new philosophies warranted new approaches. These challenges and their responses led to a new paradigm which is discussed next.

4.2.5 The Protestant-Orthodox Paradigm

In the early 1800s, a shift was taking place within the Protestant movement. It was at this time that Friedrich Schleiermacher, Albrecht Ritschl and later Adolf von Harnack made their mark through what is now sometimes called liberal Protestantism. Bernard Reardon defined it in the following manner:

> Liberal Protestantism is in fact simply what those who would think of themselves as at once Protestant and liberal conceive the Christian religion essentially to be; a wholly personal estimate, therefore, in which differing interests and emphases are bound to manifest themselves.[389]

Note that although Küng listed this paradigm as before that of the Enlightenment, Olson notes that the rise of this liberal theology was also synonymous with the Enlightenment.[390] Further, it can also be said that while the apologists of the ancient Hellenistic culture of the Roman Empire contextualised many of their messages within society and with the prevailing views of the time in order to reach their audience, this period of Christianity sought to counteract the Enlightenment's call for the supremacy of reason. A great deal of emphasis was placed on capturing the essence of religion which was defined as being governed by the feeling of having a total dependence on God. There was a call for the acceptance of "responsible modern scholarship, including biblical criticism … while it simultaneously remained faithful to essential

[389] Bernard M. G. Reardon, *Liberal Protestantism* (Great Britain: A. & C. Black Ltd, 1968), 9.
[390] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 540.

evangelical beliefs."[391] It is also described as a "theology of the heart (because) it sought to put experimental theology on an equal footing with biblical theology or confessional theology."[392]

The best exponent of this theology was Schleiermacher. In contrast to Aquinas and many of the Medieval Scholastics, he refused to make reason the main tool by which religion should be judged. Instead, Schleiermacher called the educated of his time to "a feeling or intuition of utter dependency on the "One", or the "Word All", a feeling that preceded any rational construction of dogma."[393]

At the same time as Schleiermacher, Immanuel Kant embodied many of the Enlightenment's ideals. Although, he also commented on the limits of reason, he was a moralist and essentially distilled religion to living "a life in accordance with rationally discernible duty."[394] He had a negative view on the notions of proofs on the existence of God and immortality. He believed that "neither of them would it ever be possible to provide 'sufficient demonstrations' from pure reason, and they would be, 'for the speculative reason, always transcendent.'[395] In what is perhaps an early precursor to the two-worlds' view on the relationship between science and religion, Kant's philosophy clearly meant that there was no conflict between them because,

> It [religion] had nothing to do with speculative beliefs about the nature of the world or history and did not depend on any supernatural revelations or miracles. And yet it did retain belief in God, the immortal existence of souls, and rewards and punishments after death.[396]

Schleiermacher's reaction against an overreliance on reason and a greater focus on feelings was also known as Romanticism. He focused on the person of Jesus instead of being a teacher of morality.[397] He advocated moving away from the mind and into the heart. Rather than discussing the theological intricacies of doctrines like the Trinity, which are difficult for the

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[391] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day*, (Grand Rapids, MI: Zondervan, 2013), 545.
[392] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 5, Christian Doctrine and Modern Culture (since 1700)* (Chicago and London: The University of Chicago Press, 1989), 171-2.
[393] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day*, (Grand Rapids, MI: Zondervan, 2013), 545.
[394] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 541.
[395] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 5, Christian Doctrine and Modern Culture (since 1700)* (Chicago and London: The University of Chicago Press, 1989), 117.
[396] Roger E. Olson, *The Story of Christian Theology*. (Leicester: Apollos, 1999), 541.
[397] Justo L. Gonzalez, *A History of Christian Thought in One Volume*. (Nashville: Abingdon Press, 2014), 314.

human mind to comprehend, he called for a greater emphasis on the experience of God and what it means to have a "God consciousness." Schleiermacher reached the same conclusion as Kant, namely, science and religion operate on two distinct spheres.

Ritschl also sought to disentangle Christianity from science. Firstly, he argued religious propositions, including Christian doctrines, are eminently different from scientific ones. While science deals with facts, Christianity deals with values and their judgments.[398] However, Ritschl did not seek to undermine the Bible or the study of Scripture. He urged this should be done in the context of the Christian community, the Church. He also recommended a person's faith should be identified with an individual's study of the historical accounts of Jesus. Ritschl had a fideistic outlook since he believed humanity is excluded from a theoretical view of God.[399]

Von Harnack, a student of Ritschl, was especially critical of the New Testament writings of the apostles and believed that due to the influence of Gnosticism prevalent in early Christianity, Jesus' original message had been changed by Gnostics like Marcion.[400] To discover the true original teachings of Jesus, a scholar should engage in the critical study of the relevant texts. Unlike Ritschl, however, von Harnack believed the study of history was an invaluable tool in discovering an impartial view of Christianity. Yet according to von Harnack, "the message of the gospel … is the fatherhood of God, the brotherhood of man, and the infinite value of each individual soul."[401] But von Harnack denied Christ was God in the flesh but instead was a human being like everybody else. For von Harnack, the Son of God title meant Christ knew or had a consciousness of God the Father. But like his predecessors, he aimed to bring the message of the Bible to the unbelievers.

There are three unifying themes to the liberal and modern theology espoused by the above theologians: the immanence of God, the moralisation of dogma, and the universal salvation of humanity.[402] Note that most liberal Protestants did not endorse a self-absorbed

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[398] Roger E. Olson, *The Story of Christian Theology.* (Leicester: Apollos, 1999), 547.
[399]John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day*. (Grand Rapids: Zondervan, 2013), 551.
[400] Lohse, Bernhard, *A Short History of Christian Doctrine*, Tr. by F. Ernest Stoeffler. (Fortress Press, 1985 (1966). First published by Kreuz Verlag in 1963).
[401] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day*, (Grand Rapids, MI: Zondervan, 2013), 554.
[402] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 550.

Christianity insulated from the world. Reardon remarked: "Freedom in God is of course the private end of each individual Christian, but the ultimate end is the divine Kingdom of God."[403]

Liberal Protestantism implicitly rejected deism though they had a high regard for the Bible, but at times seemed to endorse a type of pantheism (mutuality between God and nature) and modalism (different manifestations, rather than three distinct persons, of God). They did underscore the need for salvation and that it is humans who alienate themselves from God. Liberal protestant theology is still seen whenever doctrine or personal experiences of God take precedence over some of Christianity's roles in society such as ethical education and social activism.[404]

4.2.6 The Modern-Enlightenment Paradigm

Again, there is considerable overlap between the previous paradigm and the Enlightenment period. This period marks a time when both religion and science were at odds with one another. Christianity sought to distance itself from embracing a purely academic and intellectual endeavour. During the early 1800s, many of the European countries underwent a wave of political revolutions while Christianity was seen as a plot designed to give control of the Earth over to the oppressive powers of a priestly caste.

It was also during this time that atheism first launched its attacks against religion, and in particular, Christianity. Ludwig Feuerbach suggested in 1841 in *The Essence of Christianity* that God is really "Man's highest feeling of self … God, is nothing else than man's highest feeling of self."[405] Ludwig Büchner similarly advocated science and dismissed Christianity. He wrote that: "As regards Christianity … it stands by its dogmatic portion or contents in such a striking and irreconcilable, nay absolutely absurd contradiction with all the acquisitions and principles of modern science that its future and tragical fate can only be a question of time."[406] That is, it

[403] Bernard M. G. Reardon, *Liberal Protestantism* (Great Britain: A. And C. Black Ltd, 1968), 28.
[404] *Ibid.*, 553.
[405] Ludwig Feuerbach, *The Essence of Christianity*, Tr. By Maria Evans, (London: Trübner & Co, Ludgate Hill, 1881), 284.
[406] Ludwig Büchner, *Man in the Past, Present and Future*, Tr. By W.S. Dallas, (London: Asher & Co, 1872), 220.

would be not be too long before the superiority of science would relegate Christianity to the dustbin of history.

This attempt to undermine and relegate religion had a profound effect on Christianity and how God was to be viewed. Deism started to establish itself and aimed to redefine the way in which God related to his creation.[407] It can be defined as "the religion of an "absentee God" who is uninvolved in the world of nature and history. To some Christians, the Deists were sceptics who denied miracles in the name of natural laws and rejected anything supernatural."[408]

The rejection of the supernatural sat well with the undercurrent of the times. Momentum was gaining so that Christianity would either be replaced by science, making the former obsolete, or defined as the codification of delusions by people in need of a crutch and unable to deal with reality. Even many self-proclaimed followers of Christ advocated deism. Deists at the time did not believe God was indifferent or not involved, but instead expressed a deep scepticism towards claims which could not be grounded in reason or in the nature of things. Deism did not so seek to reject Christianity, but rather accommodate it to the prevailing thought of the time; it was a way of reconciling the philosophy of the day by elevating reason and making it supreme. As Byrne notes "… the ruling assumption in deism is that natural religion (in its first sense of a religion of reason derived from reflection on nature) is the true religion."[409]

Further, deism was also a reaction against religious and Christian authority. First, there was the enduring conflict between the Roman Catholics and Protestants, followed by the Thirty Years' War.[410] Olson sums up the Enlightenment with three statements:[411]

- An emphasis on the power of "reason" to discover truth about humanity and the world.
- Scepticism toward the venerable institutions and traditions of the past.

[407] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 519.
[408] *Ibid.*, 519.
[409] Peter Byrne, *Natural Religion and the Nature of Religion* (London and New York: Routledge, 2013), 8.
[410] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 521.
[411] *Ibid.*, 522.

- Emergence of a scientific way of thinking that offered intellectuals a viable alternative approach from that which had dominated medieval thought.

The legacy of deism was the transformation of Christianity into a universal natural religion of pure reason. Deists attempted to steer away from superstitions and blind obedience to authority. However, the philosopher Hume sounded the death knell for deism because he pointed out that the rational arguments for God from natural religion were not as rational as originally thought.[412]

Deism was not the only new term that resulted from the Enlightenment and words such as secularisation and secularism also began to enter the European vocabulary. Secularism emphasises that humanity is to advance without the aid of religion.[413] It was also during the Enlightenment that Darwin's *Origin of Species* appeared. Proclaiming new species through natural selection and evolution from others, it went directly against how many understood Genesis 1 and 2. It was a teaching which proclaimed all species descended from other species, and in particular from lower species.[414]

Christianity attempted to adjust itself by creating new strands of Protestantism that were more liberal. In abandoning the previous paradigms of religious authority, the infallibility of the Bible was brought into question. This new freedom permitted new ways of interpreting and understanding the Christian faith. However, some of these new ideas focused on scepticism of the original teachings of Jesus.[415] They included calling into question the humanity of Jesus or doubting whether he was really God.[416]

In summary, the age of Enlightenment questioned whether reason and faith could coexist. These challenges led to a raft of new ways of understanding Christianity, with one of those being deism. Proponents of this view and others which were not traditionally orthodox did not set out to undermine Christianity, but by not presupposing many of the traditions and ideas that have

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[412] Justo L. Gonzalez, *A History of Christian Thought in One Volume* (Nashville, TN: Abingdon Press, 2014), 311.
[413] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day* (Grand Rapids, MI: Zondervan, 2013), 539.
[414] *Ibid.*, 534.
[415] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 5, Christian Doctrine and Modern Culture (since 1700)* (Chicago and London: The University of Chicago Press, 1989), 11.
[416] *Ibid.*, 94.

been passed on from one generation to the next, this resulted in a pluralism of ideas and doctrines which in turn led to more confusion and division. This makes it even more remarkable that ecumenism, which aims to bring some of these factions together, should be the next and current paradigm.

4.2.7 The Contemporary-Ecumenical Paradigm

Recently, different Christian denominations have sought to engage in dialogue with one another to find that which is common among them.[417] Küng dedicated an entire book to this paradigm with the aim of the movement being to seek unity within diversity.[418] Olson posits this rather poignantly: "Could there be unity without uniformity? How diverse can the parts be and still produce a symphony?"[419] Coercion, ex-communication, torture and even death were the tools traditionally used to enforce uniformity. For this paradigm, a radically different approach was undertaken which still continues today. This movement towards ecumenism started late in 1965. In the final days of the Second Vatican Council, Pope Paul VI and the Orthodox Patriarch of Constantinople, Athenagoras, issued a joint declaration on past events that led to the schism between the Eastern and Western churches.[420]

The Second Vatican Council also promoted reforms leading to more openness within Catholicism resulting inthe embracement of biblical scholarship, revision of traditional liturgy and a more engaging view of the modern world. Although the Second Vatican Council was known for its ecumenical overtures, it is perhaps best remembered for its affirmation of the supremacy of Scripture and that it greatly qualified the long-standing notion of there being "two sources of authority": doctrine and tradition.[421] The Eastern Church was not the only one Rome sought to start dialogue with. The Anglican-Roman Catholic International Commission (ARCIC) was established and significant agreements were reached in 1967 with regards to baptism,

[417] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 590.
[418] Hans Küng, *Theology for the Third Millennium* (New York: Doubleday, 1990).
[419] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 591.
[420] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day* (Grand Rapids, MI: Zondervan, 2013), 772.
[421] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 596.

ministry and the Eucharist. In 1994, Pope John Paul II and the Assyrian Church of the East signed a Common Christological declaration.[422] In 1999, after a dialogue that lasted more than 30 years, Lutherans and Roman Catholics produced a joint declaration on the most contentious doctrine of the Reformation: the doctrine of justification.[423] In the 15th paragraph of the *Joint Declaration on the Doctrine of Justification*, it reads: "By grace alone, in faith in Christ's saving work and not because of any merit on our part, we are accepted by God and receive the Holy Spirit, who renews our hearts while equipping and calling us to do good works."[424]

Ecumenism did not restrict itself to signing documents with Catholics and evangelical Protestants through common ground in matters of social relevance and it was not restricted to countries that are predominantly foundationally or nominally Christian. A merger also occurred in the subcontinent. Formed in 1947, it brought into union the Anglican Church of India, Burma and Ceylon the South India Province of the Methodist Church and the South India United Church (which itself brought the Presbyterian, Congregational and Dutch Reformed bodies together). Gonzalez discusses the ecumenical aspects of Third world theologies.[425] These are theologies which have not traditionally engaged in theological debate due to the inherent powerlessness of minority groups and women. Firstly, they see themselves as relevant for a particular time, place and situation. Secondly, for example in the Protestant-Liberal tradition, there is an emphasis on eschatology. Thirdly, they also focus on the incarnation and how it relates to God's action in the world. Fourthly, they set aside, or do not concern themselves with, many of the polemical issues of Western Christianity and instead stress social justice.

Despite all these agreements and common understandings, it is difficult to theologically characterise this period in succinct terms. On the one hand, there have been real efforts and significant steps taken to bring different sections of orthodox Christianity together, but on the other, there is a place for acknowledging their differences. At the same time, this has been a period which has spawned different social causes and movements. For instance, the 1970s saw

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[422] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day* (Grand Rapids, MI: Zondervan, 2013), 773.
[423] *Ibid., 774.*
[424] *Joint Declaration On the Doctrine of Justification*, http://www.vatican.va/roman_curia/pontifical_councils/chrstuni/documents/rc_pc_chrstuni_doc_31101999_cath-luth-joint-declaration_en.html.
[425] Justo L. Gonzalez, *A History of Christian Thought in One Volume* (Nashville, TN: Abingdon Press, 2014), 345-6.

the emergence of different liberation theologies. In Latin America, the focus was on extreme poverty and economic injustice, while in North America there was an emphasis on both the racial inequality and injustice perpetrated upon African Americans.[426] For women there was the emergence of a feminist theology which focused on sexism and patriarchy in both society and the Church.[427] The focus of applying Christian thought and teachings to particular oppressed groups illustrates how liberation theologies are best defined: by the rejection of a universal theology that is for all people everywhere. In short, "theology must be contextualized anew in each and every social-cultural situation and made concrete and committed to justice within that specific situation."[428]

This concern in highlighting social injustice and inequality led to the formation of a new type of theology with its roots found in the liberal Protestant theology of Alfred North Whitehead. Process theology offers a solution to the problems of evil and innocent suffering by revising and limiting God's power and omniscience, even if at times it has been the subject of criticism by conservative theologians. Another type of theology that rose to prominence in the mid-1900s is eschatological theology. The leading proponents, Wolfhart Pannenberg and Jürgen Moltmann, affirmed that "God does not need the world to become who he is, and yet at the same time he chooses to relate to the world in such a way that he goes through history together with it."[429] But this has been criticised by process theologians as too supernaturalistic while at the same time also affirming the notion of a deistic God. Fundamentalists view its eschatology as too critical and not orthodox enough. This demonstrates that for all the gains made in uniting the different strands of Christianity, uniformity does not necessarily follow. Though some might despair at the pluralism of the Church, others might take a more optimistic view and in the end, "only the future will reveal whether Christian theology will remain radically pluralistic or rediscover a common chord that will unite diverse voices without obliterating them."[430]

Finally, McGrath notes that ecumenism might signify the end of demarcation. This term came to prominence by Popper to denote a way of distinguishing science from pseudoscience. As

[426] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 602-4.
[427] *Ibid.*, 605-6.
[428] *Ibid.*, 603.
[429] *Ibid.*, 608.
[430] *Ibid.*, 609.

mentioned earlier, Popper believed one criterion for demarcation in the natural sciences was falsification. Science can be tested repeatedly and if a theory continually stands, then confidence grows with regards to its veracity. McGrath discusses recent attempts to steer away from the social demarcations of the Reformation era and move towards unity.[431] This is somewhat akin to Emperor Constantine showing a willingness to put aside theological differences and adopt a more conciliatory tone, even if ulterior motives guided his actions. McGrath suggests the underlying change in thinking is because the political-based impetus for epoch-defining movements like the Reformation across Europe and Christendom during Constantine's reign, has been replaced by more than doctrinal formulations. This shift towards stressing what different denominations and Christian traditions have in common, reflects a growing trend to strengthen the body of Christ based on that which binds them together. However, there are some limitations in Küng's work. These are discussed next with references to Kuhn's work.

4.3 Limitations and Drawbacks in Küng's *Paradigm Change in Theology*

Küng provided a reference point for understanding how Christians throughout history have viewed the nature of their relationship with God. However, there is a need to revise and expand on that work. Limitations and, perhaps drawbacks, are now discussed. Some of these points are not explicitly mentioned by Thomas Kuhn, but they can be inferred from his work and the examples he used.

4.3.1 A Common Beginning of Revolutions

While this is subtly implied by Küng, since he noted that paradigms provide "solutions", this is certainly not discussed any further or in much detail. Throughout the history of Christianity, it can be seen that the precursor to a revolution is a paradigm change and the catalyst to bring about such a change often has its genesis in one idea. Gonzalez also writes that:

> Doctrines evolve in various ways and for different reasons. One of these ways – perhaps the most common – is by responding to a new challenge … Most of the

[431]Alister E. McGrath, *A Scientific Theology, vol.3, Theory* (London and New York: T&T Clark, 2003), 71-6.

> early councils that issued declarations regarding the godhead, or about the nature of Christ, were responding to the challenge of dissenting opinions.[432]

The repercussions of following a single idea through to its conclusions force a re-evaluation of previously held beliefs which are then inextricably linked with the novel doctrine that is being formulated. Such an event is preceded by the occurrence of anomalies that begin to cast doubts on an existing theory or theories. These pave the way to what Kuhn called discoveries: "… discovery commences with an awareness of anomaly."[433] McGrath also alludes to this idea when he notes that an observation leads to a theory and this in turn forms a paradigm. He writes: "The scientific investigation of historical events leads to a specific theory of history, which in turn, leads to a specific worldview, and actions directed towards its achievement."[434]

A discovery is crucial if a new paradigm is to shatter the existing status quo. However, there is an uneasy tension in such a discovery. Kuhn argued a discovery is not accepted until paradigm changes to the theory are made. Hence, the discovery preceding paradigm change is vital, but then the theory must also change if the discovery is to survive and be accepted. Kuhn again remarked that:

> It [normal science] continues with a more or less extended exploration of the area of anomaly. And it closes only when the paradigm theory has been adjusted so that the anomalous has become the expected. Assimilating a new sort of fact demands a more than additive adjustment of theory, and until that adjustment is completed – until the scientist has learned to see nature in a different way – the new fact is not quite a scientific fact at all.[435]

An example is to be found in the dispute between Bishop Alexander and Arius in Alexandria in A.D. 318. Arius had begun to teach that since Jesus as the son of God was begotten, then he must have had a beginning. Alexander countered by corresponding with Arius putting forth his reasons as to why he believed that such a view was incorrect. The anomaly, leading to a potential discovery, is that the exact nature of Christ had not been defined previously. This gap in knowledge allowed a heresy to be developed and then forcefully argued. Such a gap was prominent given the argument had reached all the way to Emperor Constantine,

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[432] Justo L. Gonzalez, *A Concise History of Christian Doctrine* (Abingdon Press: Nashville, 2005), 9.
[433] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 53
[434] Alister E. McGrath, *A Scientific Theology*, vol. 3, *Theory* (London and New York: T&T Clark, 2003), 20
[435] *Ibid.*, 53.

who then called a synod in the same year when a hundred bishops convened to hear Alexander's arguments. The matter was not settled immediately and it was one of Alexander's students, Athanasius, who would put the issue to rest, eventually leading to the formulation of the Nicene Creed. This is not a discovery, but rather an affirmation of what Alexander and Athanasius had always believed. However, this was certainly new to the bishops who heard it in 318. As Olson says "… the average bishop was undoubtedly quite confused."[436]

This also demonstrates another feature about paradigm changes. They are often commenced by a single individual, or at most a small few, who are willing to think outside the current "rules" and in a completely original manner. Laudan seems to be the only philosopher of science to suggest this might be the case. He writes that:

> One might suggest, for instance, that a scientific revolution occurs when a sizable number of influential scientists in any discipline abandon one research tradition and espouse another…[But] Revolutions can be, and often have been, achieved by a relatively small proportion of scientists in any particular field.[437]

In science, the classic example provided by Kuhn is that of Copernicus. Another example is the discovery of oxygen. Here, doubt remains as to who should be attributed with the discovery as two individuals, Priestley and Lavoisier, made crucial findings.[438] Lavoisier, due to the success of Priestley's work, led the way in forging new ways of conducting laboratory analysis and in formulating the principles of modern chemistry.

For Christianity, another example of doctrinal development also happened to be one of the cornerstones of the Reformation. The doctrine of justification is the emphasis of God's grace upon a sinner and that salvation is not dependent on human beings alone. Additionally, if Luther is attributed with formulating the doctrine of justification, then Augustine should take the credit for the doctrine of grace and predestination which are at the core of many Protestant denominations. Augustine was responding to Pelagius and it was during the course of this

[436] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 149.
[437] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth* (London, UK: Routledge & Kegan Paul, 1977), 137.
[438] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago and London: The University of Chicago Press, [1962] 2012), 53-57.

conflict that Augustine formulated his views on grace and predestination.[439] These views had obvious implications for free will and salvation. Further, the way these beliefs are viewed in one of those matters will inevitably impact the others. Gonzalez writes that for Augustine:

> Grace is irresistible. It is inconceivable for the will to reject that grace which is given to it, for grace acts in the will, leading it to will the good. This does not mean that Augustine has forgotten or forsaken his defense of free will, for grace does not oppose freedom. Grace does not force a man to make a decision against his own will. It is rather that God, through his grace, boosts the will, strengthens and stimulates it, so that the will itself, without any coercion, will desire the good. Man does not save himself nor is he saved against his will.[440]

Gonzalez captures the relationship in Augustine's theology between grace, free will and salvation. In formulating grace, Augustine knew his views also had repercussions for the will of a person and his salvation, thereby changing not just merely a doctrine, but a worldview.

4.3.2 Transitioning Between Paradigms

Küng described seven paradigm changes to describe the different epochs of Christianity since the death of Jesus. However, this can be somewhat misleading because it gives the impression these different stages summarising Christian thought for the last 2000 years or so, could be understood as being neatly delineated in time. The implication is that these paradigms did not intersect in time. But this is not likely to be the case given that before any paradigm is popularly accepted, it must replace another paradigm. It is at this juncture that a new paradigm often encounters opposition or is met with criticism. This means there is a transitional period before the old paradigm is finally discarded. Kuhn noted that paradigms are not easily dismissed and replaced. When problems are encountered with the particular worldview of a paradigm, any discrepancies are sought to either be 'quarantined' as in Lakatos' auxiliary belt, or they are accommodated within the paradigm, which is the Kuhnian perspective. This is not in itself fatal to a paradigm and doubts on a paradigm's suitability are only aroused when many such 'anomalies' start to appear.

[439] Justo L. Gonzalez, *A History of Christian Thought., vol. 2, From Augustine to the Eve of the Reformation* (Nashville, TN: Abingdon press, 1971), 44-7.
[440] *Ibid.,* 45.

If Kuhn is correct that paradigms are incommensurable, then it can be concluded that one paradigm will at one point dominate over another at any given time even if there is no rational basis for this (although often the reason is because it is able to accommodate the anomalies in a way the old paradigm could not). There may be other paradigms that co-exist, but often there will be one that trumps all others and is the predominant paradigm of the time. Yet, the underlying tension that exists when one paradigm replaces another is inherently underplayed in Küng's categories. Kuhnian crises arise because two or more paradigms are attempting to gain supremacy over another.

Kuhn's main example when describing the Copernican revolution is a case in point. The system proposed by Copernicus that challenged the Ptolemaic model was not immediately accepted and the geocentric model was not abandoned straight away. Kuhn noted Copernicus' system was no more accurate than Ptolemy's until more than 60 years after Copernicus' proposal. This occurred when Kepler introduced the concept of elliptical orbits to explain the planets' movements.[441]

For Christianity, this also appears to be true: although Küng noted the Protestant-Orthodox paradigm came after the Enlightenment, other authors suggest that there might have been considerable overlap between these movements, if not an actual reversal of order. Woodbridge and James point out the age of theological liberalism (1799-1919), along with Schleiermacher, began after the Age of "Lights" (1680-1789).[442] The same authors also mention the "Age of Revolutions" which lasted 78 years starting in 1770.[443] This epoch was marked by the French revolution and a period of *dechristianisation*; and the peoples fighting for democracy against ruling powers. As Pelikan noted, "it affected different aspects of life and thought in quite different ways: education and politics, science and the arts, philosophy and religion."[444]

Discussing the Copernican revolution and Kepler's laws to establish the heliocentric model as the correct one, points to another curious fact. Even though most paradigms appear to

[441] Thomas S. Kuhn, *The Essential Tension* (Chicago and London: The University of Chicago Press, 1977), 323-4.
[442] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present* Day (Grand Rapids, MI: Zondervan, 2013), 451-88.
[443] *Ibid.*, 489-523.
[444] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 5, Christian Doctrine and Modern Culture (since 1700)* (Chicago and London: The University of Chicago Press, 1989), 60.

have originated with one or, at most a couple of people, these are often reinforced and expanded by other people who are converted to the paradigm. This highlights the notion that in order for a paradigm to be successful, it requires at least some of those within the relevant community to accept it and then develop it further. Knowledge is not solely determined by popularity, but in order for knowledge to see the light of day it needs a critical number of practitioners who are willing to take up its cause and promote its message. With regards to the Copernican revolution, Copernicus was not the first person to suggest the Earth rotates around the sun. Aristarchus of Samos, an ancient Greek astronomer and mathematician, was one of the first to suggest a heliocentric view of Earth's relation to the sun. He was in turn influenced by Philolaus of Croton who also described a non-geocentric view of the universe. So, Philolaus was the first to suggest the Earth is not at the centre of the universe and Aristarchus was the first to propose a model where the Earth orbited around the sun. However, this view fell out of favour because the geocentric model was supported by Aristotle and Ptolemy but there were not enough suitable converts.[445] Copernicus revived the model hundreds of years later.

In Christianity, another example previously mentioned is the Arian heresy and the role played by Athanasius. Initially, Alexander reluctantly sought to quietly refute Arius through a scholarly dispute between the two of them. But, Arius took his message further and started teaching it to people. Even the council convened in Constantinople did not prove to be the end of the matter and slowly Arianism or variants thereof, started to remerge so that after Alexander's death, the fight against teachings undermining the deity of Christ continued. After the Nicene Creed was accepted, Constantine under the influence of various bishops and advisers, had Arius restored as presbyter. Athanasius refused to install him, so Constantine, in turn, exiled Athanasius. In the meantime, Athanasius preached the orthodox trinitarian doctrine in the Latin West and when he came back to Alexandria, he called another council and reaffirmed homoousios ("of the same substance") as the proper relationship between God the Father and the Son.[446]

Hence, the success of a new paradigm depends on overcoming the established paradigm or status quo. For a period of time, there may not be one single favoured paradigm. Its eventual

[445] Thomas S. Kuhn, *The Essential Tension* (Chicago and London: The University of Chicago Press, 1977), 75-6.
[446] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999),144-72

triumph often involves perseverance, not just from the person or persons who proposed the paradigm, but also by others who have been 'converted' and are willing to promote and develop it further.

4.3.3 Distinctions Between Küng's Macro-, Meso- and Micromodels

Doctrines belong in the domain of the meso- or micromodel for Küng. In physics, this would be akin to the Copernican, Newtonian or Einsteinian models being macromodels while the mesomodels would be medium-range problem areas such as the wave theory of light, the dynamic theory of heat or Maxwell's electromagnetic theory. The theological analogy of macromodels, according to Küng, would be the Alexandrian, the Augustinian, the Thomist or the Reformation models.[447] That is, if macromodels provide general solutions, then mesomodels and micromodels provide solutions for more detailed problems. However, he does not show how all these models might be related to each other. Rather, Küng was interested in formalising a system to appropriately describe the different ways Christian theology can be categorised. In discussing the Kuhnian notion that theories exist in a network or constellation of beliefs which are all interconnected, Küng only mentioned the macromodels and described the lower level models only briefly or in passing. He did not explain the way they are interconnected or how one might influence the other. By breaking down categories into the macro, meso and micro, the reader could be tempted to think the macro drives the lower-levels. This is partially true since a paradigm drives the research or the way problems are solved and formulated. This would be a similar phenomenon with theology: the view one has of God will greatly influence how God is to be worshipped, prayed to, etc. However, such labelling can be misleading. It can lead to the belief that one type of model precedes the other and a worldview must be changed first before the micromodels themselves change. Again, to some degree this is true; but, it has already been shown that many of the revolutions that have led to macromodels began from doctrines or changes in the way a particular teaching was viewed. For the Reformation, it was justification, or rather, how a person is made right with God that truly started the Protestant movement. Luther did not envisage this would lead to a whole new way of thinking for Christianity, causing division or schism. It began as a short-term problem or matter which went on to change the

[447] Hans Küng, *Theology for the Third Millennium* (New York: Doubleday, 1990), 134.

course of Christianity. On reading Küng, the descriptions of these models do not accurately reflect such revolutionary moments in history and he does not seem to have an opinion on whether a doctrine is formed by a change in paradigm (macromodel) or if it starts from a singular idea or teaching (meso or micro). Also, in analysing any interconnectedness between these models, it is not clear if these levels are in some way chronological. Some important doctrines can either be a part of, or each can be a whole macromodel in itself. Küng alludes to the fact that awareness of a growing crisis, which leads to a breaking down of available rules and methods, is the precursor for the emergence of the new in theology.[448] This suggests macromodels filter down to the lower models. Though true in most cases, this does not appear to be true in the beginning; rather, it is doctrine or a singular issue which proves to be the catalyst for a new model, which then leads to novel ways of doing and thinking.

The doctrine of the Trinity is a good example. Küng might describe this as part of the Alexandrian paradigm, but this does not accurately capture the true nature of what happened in history. Initially there was a dispute between Alexander and Arius regarding the Son of God. The conflict started over a single idea, and so the birth of this paradigm started not because of a clash of theological systems, but stemmed from a singular issue that was viewed as crucial. Arius sought to challenge the old bishop when the former detected a hint of Sabellianism. Arius believed Alexander's teaching of Christ was just an aspect of God. This led to the formation of a synod in the same year, centred on a single point of contention. But, this matter also had much bigger ramifications, i.e. a revision in the micromodel leading to a meso and/or macrolevel change. For both Arius and Alexander, deciding the true nature of the Son of God also directly impacted the matter of salvation. Arius believed that what Alexander taught meant salvation was at stake because Christ is not fully human; whilst for Alexander, Arius' views denied the deity of Christ. Olson again notes:

> So the difference between Arius and Alexander over the nature of Jesus Christ and the Logos who became incarnate in him had to do with soteriology- the doctrine of salvation. Alexander was assuming the orthodox view of salvation going back to Irenaeus; Arius was assuming a view of salvation that emphasized freely conforming to God's moral standards.[449]

[448] Hans Kung and David Tracy, eds., *Paradigm Change in Theology*, Tr. by. Margaret Kohl (New York: Crossroad, 1991), 20.
[449] *Ibid.*, 144.

The presuppositions from each of these views did not confine themselves to a particular doctrine, but ultimately would affect other aspects of Christian theology. This point subtly aligns with Kuhn, who suggested the Popperian model only occurred rarely and when it did, it was revolutionary. A single hypothesis or theory is tested and its failure is found to have such an effect on other beliefs that an entire reassessment is needed. The critical questioning of a single theory leads to anomalies or discrepancies due to its effect on other aspects of theology which leads to crisis and then precipitates a revolution and the overthrow of an old paradigm for a new one.

4.4 Final Remarks on Küng's *Paradigm Change in Theology*

Küng's application of the idea of Kuhnian revolutions has been described with a focus on the development of doctrine. Küng described Christian thought throughout history as a series of different paradigms. Each paradigm is thoroughly explained and expounded upon from Küng's original work so that a given doctrine is now able to be understood within the context and times within which it emerged.

However, several limitations and drawbacks have also been identified, in particular the way a doctrine might develop and progress, which Küng did not elaborate upon. For the beginning of revolutions, this chapter has sought to show that often their genesis takes place from a single idea and from a single person or small group of people On reading Küng's accounts of paradigm changes, the reader might come away with the false notion that these paradigms can be easily delineated, but several examples have been shown here demonstrating that this is not necessarily the case. Lastly, Küng mainly concentrated on the worldview or the prevalent paradigm at a particular time, but mentioned little in the way this paradigm influenced the formation of doctrines. This chapter has sought to remedy that by describing in more detail the non-theological factors in Christian history and how these shaped the formation of doctrine.

In highlighting some of the shortcomings of Küng's original work, a fuller understanding of how Christian doctrines arise, develop and progress has been given.

PART 2

THOMAS KUHN AND THE DEVELOPMENT OF DOCTRINE

CHAPTER 5

Thomas Kuhn's Ideas and Their Applications to the Problem of the Development of Christian Doctrine

A dialogical approach is taken in order to discuss the development of doctrine with respect to Kuhn's work. This allows for correspondences between both fields to be easily observed and understood. This type of approach mirrors Kuhn's who throughout his seminal *Structures* book often presented abstract and general ideas intermingled with concrete examples found in the natural sciences. However, a discussion on previous related work, regarding external factors and models applicable to theology and the natural sciences, is given in relation to Kuhn's ideas.

If theology underwent several paradigm changes throughout history, then it is reasonable to find out and analyse the answers a particular worldview produced. Despite praising the work of Newman, Toon maintained "that all Church and denominational doctrine is historically and culturally conditioned, most modern scholars reject all views of development which portray it as merely continuous, cumulative growth in understanding revelation."[450]

Clayton remarked that coherence is crucial to Kuhn's ideas.[451] This means adequate explanations must also integrate human experience. Torrance also believed that in order to speak about knowledge of God as a human endeavour, the importance of human beings and their experiences must be considered. He was sceptical all subjectivity could be eliminated within a person, and suggested there exists a process of continual reinterpretation that could lead to a rejection of previously held beliefs. He wrote:

[450] Peter Toon, *The Development of Doctrine in the Church* (Grand Rapids, MI: Wm. B. Eerdmans Publishing Co., 1979), 81.
[451] Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion* (New Haven and London: Yale University Press, 1989), 41.

> It is therefore unscientific to pretend that the subjective element is eliminated when it cannot be. Scientific thinking must operate with a severely self-critical and controlled subjectivity, for we can only advance to new knowledge by rigorous re-interpretation, and sometimes only by renunciation of previous modes of thinking.[452]

This might be obvious for the humanities or the social sciences, but Torrance believed this was also the case for the empirical sciences. Even in these disciplines, there is speculation or "an imaginatively advanced sketch of the reality into which it is probing."[453] This concept of coherence can also serve as a gap between the natural and social sciences because the scientist must take into account all the psychological, cultural and political factors. Echoing Toon's thoughts, Clayton asserted that: "theory construction is not a linear process, since both theory and data are affected by pretheoretical ideals and paradigms which only later…will be judged fruitful or not."[454]

Pelikan also highlighted the importance of cultural context in light of the development of doctrine when he wrote:

> Certain critics were led to argue that the history of Christian doctrine is not a proper discipline of historical research, and that the development of doctrine, in a particular time and place may be interpreted competently only by a scholar whose field of concentration is the entire culture of those centuries.[455]

Laudan noted that this also takes place within the field of science. He emphasised the study of external factors influential to the development of scientific theories and stated:

> A sociologist may seek to explain why a certain *theory* was discovered (or, after discovery, accepted or rejected) by pointing to the social or economic factors that predisposed scientists to be sympathetic or hostile to it. Alternatively, he may seek to show that certain social structures were influential on the genesis of the concepts of a theory. Such efforts fall within the scope of what I call *cognitive sociology of science.* [456]

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[452] *Ibid.*, 93.
[453] *Ibid.* ,287.
[454] Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion* (New Haven and London: Yale University Press, 1989), 40.
[455] Jaroslav Pelikan, *Development of Christian Doctrine* (New Haven and London: Yale University Press, 1969), 44-5.
[456] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth* (London, UK: Routledge & Kegan Paul, 1977), 197.

Laudan recognised there may be present non-scientific factors which are partially causative in the way a scientific theory originated. He aimed to understand and explain why a theory came to be in the first place, rather than focus on the theory per se, its effectiveness or predictive power. Beliefs form a cognitive sociology of science's empirical problems and it is assumed that beliefs can be explained in terms of the social situations of believers. Laudan links these sorts of beliefs with a lack of rationality. However, it is unclear why such a demarcation is required or why he implied rationality and the social substructures underlying belief were mutually-exclusive. This association is similar to the arbitrary nature of scientific revolutions advocated by Kuhn. Laudan calls this the *arationality assumption* and writes, "the sociology of knowledge may step in to explain beliefs if and only if those beliefs cannot be explained in terms of their rational merits."[457] Pelikan, citing Perry Miller, noted that "another relevant context for the interpretation of history of Christian doctrine is social, political, and economic history (and therefore) it was impossible for any historian of doctrine to ignore altogether the social and political context of orthodoxy."[458]

Laudan's justification is that if a particular belief cannot be linked to previously established beliefs then there must have been social factors playing a significant part in the formation of such beliefs. However, while a belief which cannot be linked to previous beliefs strongly implies the presence of social factors, the opposite is not necessarily true. Showing a clearly rational or causative link between an established belief and a newer belief does not mean the absence of social influences or factors towards the establishment of that belief. Laudan notes this and defends the arationality assumption on the basis that it is a methodological rather than metaphysical principle.[459] While it is not clear why Laudan implies a dichotomy between rationality and the social substructures of underlying beliefs, he gives a word of caution in this regard: before any episode is classified as irrational, there must be recognition of the existence of a myriad of rationality theories. On the presence of rationality in science and religion, Van Huyssteen suggests they both share rational resources, but are nevertheless distinct. Van Huyssteen remarks that:

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[457] *Ibid.*, 202.
[458] Jaroslav Pelikan, *Historical Theology: Continuity and Change in Christian Doctrine* (London and New York: Hutchinson and Co, 1971), 117.
[459] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth* (London, UK: Routledge & Kegan Paul, 1977), 206.

> If in both theology and science we relate to our world epistemically through the mediation of interpreted experience, and if different modes of intellectual inquiry all share in the same rational resources and thus facilitate significant epistemological overlaps between different modes of cognition, then it becomes impossible to oppose the rationality of religion to that of science.[460]

This echoes Kuhn's incommensurability of paradigms to some degree. Kuhn implicitly invokes the arationality assumption, but is criticised by Laudan for the hastiness and restrictiveness with which Kuhn defines rationality.[461] Lastly, Laudan notes before cognitive sociology is applied to historical cases, one "must await the prior results of the application of the methods of intellectual history to those cases."[462] Again, it is not clear why this should be the case. Apart from stressing the need for sociologists to be more self-critical, Laudan does not expand on this criterion or explain at what point within the methods of the application of intellectual history one should turn to the arationality assumption. This seems one-sided because Laudan does not conversely recommend historians to be more sensitive to the social factors which may have been present at the time. However, Laudan does not believe rationality is independent of, or should take priority over, social factors. Often, rationality and social explanations are intertwined and the presence of one may reinforce or strengthen the other. Laudan points out that:

> In distinguishing between the rational and the socially explicable as I have, I do not mean to suggest that there is nothing social about rationality, or nothing rational about social structures and social norms. Quite the reverse is the case. The flourishing of rational patterns of choice and beliefs depend inevitably upon the pre-existence of certain social structures and social norms.[463]

If Laudan is suggesting that rationality and social explanations cannot be decoupled without affecting each other, then this very much reflects Kuhn's position. Popper also remarked that even ethics and morality may play a part in the way a scientist conducts his or her work:

> The student must constantly be aware of the facts that every kind of study may produce results which may affect the lives of many people, and he must

[460] J. Wentzel Van Huyssteen, J. *Postfoundationalist Theology* (Grand Rapids, MI: Wm. B. Eerdmans Publishing Co., 1997), 25.
[461] *Ibid.*, 207.
[462] *Ibid.*, 208.
[463] *Ibid.*, 209.

> constantly try to foresee, and guard against, any possible danger, or possible misuse of his results, even if he does not wish to have his results applied.[464]

Scientists are human beings who live in a world surrounded by other human beings. They carry out research which might affect others and so Popper's statement should not be surprising (however, it is surprising coming from Popper because of his firm belief that decisions should be guided by rationality alone). Laudan could argue that this principle obeys the arationality assumption since Popper cannot establish its origins from an older belief. And yet, Popper seems to be at odds with Laudan in this matter. Popper believed in a cause because some immorality can be linked to a faulty intellect when he wrote:

> At least today the main danger of war comes from the need to resist aggression, and from the fear of aggression. These, combined with muddle-headedness and lack of intellectual flexibility, and perhaps megalomania, tend to become the main sources of danger in the presence of the tremendous means of destruction which are at our disposal.[465]

These issues from Kuhn's perspective, but with an application to the development of Christian doctrine, are here considered. A systematic and procedural approach is taken, in a similar manner to Ian Hacking in the preface of the fourth edition of Kuhn's *The Structures of Scientific Revolutions*. These, which are also to become subsections in this chapter, are: 1) Normal Science, 2) Puzzle-Solving, 3) Paradigm, 4) Anomalies, 5) Crisis and 6) Revolution.

Kuhn began his book by giving an apologia for the role of history in science. If science involves the accumulation of facts and results into some sort of cohesive order, then true scientists contributed to it in the arrangement of all the data. Science also involves the process by which these are arranged and organised. History records these processes, and chronicles the resulting achievements. The goal of scientific progress is to show a consistent and a gradual increase in the body of scientific knowledge.

Apart from the facts and how they are arranged, the historian needs to be aware of the struggles, corrections and anything that would have slowed or inhibited scientific growth.[466] Michael Matthews points out that in order for the scientific tradition to remain vital, an understanding of its history is needed. History contributes to teaching children the achievements,

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[464] Karl R. Popper, *The Myth of the Framework* (London: Routledge, 1994), 123.
[465] *Ibid.*, 125.
[466] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 2.

methods and thought processes of science.[467] According to Matthews, teaching science should not only involve the teaching of remarkable and defining results by people like Copernicus, Galileo and Newton, but also a fostering of "an appreciation of the intellectual, technical, social and personal factors that contributed to these monumental achievements."[468]

Aside from these external, non-scientific factors, Kuhn also stressed the personal, subjective manner of the practitioners of science and how prior experiences might lead them to theorise after conducting an experiment. This forms part of the basis on which to make a decision between one of a number of incompatible though plausible conclusions.[469] An analogy in the way subjective factors can influence someone's theology can be seen in Aquinas. Fergus Kerr notes that in order to understand Aquinas' teachings, "his work needs to be read with some knowledge of the many conflicts – political, ecclesiastical and intellectual, in which he was involved all his life." From an early age, Aquinas was exposed to Platonism. During this time, he wanted to distance himself from what he called the "wisdom-lovers." The obvious influence of his early teaching, along with his desire to not divorce Aristotelianism from the Christian tradition, is reflected in his magnum opus, *Summa Theologiae*.[470] Similarly, his doctrine of natural theology was formed by his educational background and by his dislike for what he perceived to be the exclusion of reason and intellect from Christianity. The life of Augustine offers another example. James Dittes notes that Augustine's writings did not hide the fact that his theology stemmed from combining his experiences with his thoughts: "He himself set the pattern for blending experience with thought. The contents of his *Confessions* range from the most abstract ideation to the most particular autobiographical detail, and no attempt is made to distinguish between the two realms of life and thought." [471]

Clearly, two of the most important thinkers who have shaped and influenced Christian doctrine were themselves shaped by their training, early education and personal judgment. If

[467] Michael R. Matthews, *Science Teaching: The Role of History and the Philosophy of Science* (New York: Routledge, 1994), 15.
[468] *Ibid.*, 3.
[469] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 2.
[470] Fergus Kerr, *After Aquinas: Versions of Thomism.* (Various: Blackwell Publishing, 2002), 1-16.
[471] James E. Dittes, "Continuities between the Life and Thought of Augustine", *Journal for the Scientific Study of Religion* ,**5**, no. 1 (1965): 130-40.

their contributions were described without any reference to their backgrounds and personal biases, then the student could come to the conclusion that their thoughts and reflections were created in a vacuum or independent of external stimuli. Polanyi described this subjective aspect in the following manner:

> We act and see by the light of unspecifiable knowledge and must acknowledge that we accept the verdict of our own personal appraisal, be it at first hand by relying on our judgment, or at second hand by submitting to the authority of a personal example as carrier of a tradition.[472]

Polanyi stressed the importance of the "personal". The individual aspects of the intellectual are contrasted with one's passions. It is the "personal" which transcends the disjunction between the objective and the subjective.[473] True discovery lies between those two polar opposites and not at the lower level where the senses and non-deliberate judgments lie. More crucially, these desires do not exist at the formalised level where the mathematical sciences live and where personal commitment is absent. Rather, true discovery requires originality which includes the ability to pursue and follow lines of enquiry previously not considered. This entails a very personal initiative, but not merely a satisfying of personal whims, since it seeks a solution that is compelling for others also. With an emphasis on theology, Rahner noted that the personal and objective interact, and are not separate from one another. Describing it in terms of the transcendental experience and history, Worthing writes "Human beings, in Rahner's theology, are seen as being conditioned not only by the world but by history. There is therefore not only a historical character to transcendental experience but the individual's transcendental nature and awareness is inseparable from his or her *a posteriori* experience of the concrete world."[474] The role of history, both in revolutions and "normal science", is central in discussing Kuhn and his ideas.

5.1 Normal Science

Kuhn defined normal science as "research based firmly upon one or more past scientific achievements, achievements that some particular scientific community acknowledges for a time

[472] Michael Polanyi, *Personal Knowledge.* (London: Routledge, 1962), 53.
[473] *Ibid.*, 301.
[474] Mark W. Worthing, *Foundations and Functions of Theology as Universal Science: Theological Method and Apologetic Praxis in Wolfhart Pannenberg and Karl Rahner*, Theology 23 (Frankfurt: Peter Lang, 1996), 96.

as supplying the foundation for its further practice."[475] In order to engage in normal science, there needs to be some training to become a practitioner. There is indoctrination into the prevailing tradition which leaves little room for other viewpoints. Textbooks present "first and foremost, those scientific achievements subject to consensus within the appropriate scientific community."[476]

Two points need to be made here: Firstly, scientific achievement consists of a consensus among a critical number of adherents. With regards to doctrinal development, Newman wrote: "The multitude of opinions formed concerning it in these respects and many others will be collected, compared, sorted, sifted, selected, rejected, gradually attached to it, separated from it, in the minds of individuals and of the community."[477] Development of a doctrine cannot be made in isolation from other ideas or from other members of the relevant community of interest. Secondly, normal science has a cumulative and aggregating effect because it builds upon that which has already been established. Such achievements are distinguished by two features according to Kuhn: they were unprecedented and novel enough to attract and pull away adherents from other competing models, and there were enough open-ended problems to allow this converted group of practitioners to solve them. Popper also pointed out that the ability to raise new problems is the most lasting legacy of a theory with regards to the growth of knowledge.[478]

But Popper noted that before a theory has been tested, a scientist may know its potential success by running it through specific smaller tests. There is a type of progressiveness within a theory leading a scientist to have a greater degree of confidence in a particular theory as it meets and succeeds against certain tests. Popper described a few criteria for grading different theories: a particular theory tells us more, or is richer than, another theory; one theory contains more empirical content than another theory; one theory is logically stronger than another theory; and one theory contains greater predictive and explanatory power than another theory.[479]

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[475] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 10.
[476] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions*. (Chicago and London: The University of Chicago Press, 1993), 186.
[477] Newman, 37.
[478] Karl Popper, *Conjectures and Refutations*, (London, New York: Routledge, 2002), 301.
[479] *Ibid.*, 294.

It is important to note that there are some differences in the way theological enquiry is conducted compared to the natural or empirical sciences. Theology intrinsically relies on human beings enquiring of God and on God communicating with humanity; perhaps it more closely resembles the humanities in some respects. The theologian or inquisitive believer at all times affirms that he or she stands before a God who listens and who is engaged with the person who is asking questions.[480] Unlike other areas of human endeavour, there is a deep personal nature to theology with a greater understanding of God being sought: God is objective – he is objective through the giving of his word and objective in the way he relates to people.[481]

There are two different types of divine revelations: special and general revelation.[482] Arthur Peacocke pointed out that "religious tradition provides one with the language and symbols to articulate one's awareness of God at any instant and as continuing experience."[483] Barbour similarly remarked that when the personal aspect is ignored, there is a danger in missing out on some knowledge. He wrote: "Just as understanding another person at the deepest level demands personal involvement rather than detached analysis, so in religion the purely analytical spectator cuts himself off from the very experiences that are most significant."[484]

Lindbeck also believed religion is more like a natural language rather than a set of axioms.[485] Normal science takes place within the confines of an idiom or language rules which the community is in agreement with so that,

> the first order truth claims of a religion change insofar as these arise from the application of the interpretative scheme to the shifting worlds that human beings inhabit. What is taken to be reality is in large part socially constructed and consequently alters in the course of time.[486]

There is a correspondence of religious truth between the community of interest and its interpretative scheme. In Christianity, reason is intertwined with enquiry and understanding truth. This implies that one of theology's roles is to ask questions. Daniel Migliore notes a common matter among theologians is that "Christian faith prompts inquiry, seeks a deeper understanding,

[480] Thomas F. Torrance, *Theological Science*, (Edinburgh: T&T Clark Limited, [1969] 1996), 131.
[481] *Ibid.*, 133-6.
[482] Arthur Peacocke, *Theology for a Scientific Age*, 2nd ed. (London: SCM Press Ltd, 1993), 191-212.
[483] *Ibid.*, 197.
[484] Ian Barbour, *Issues in Science and Religion*, (Various: Prentice Hall, 1966), 221.
[485] George A. Lindbeck, *The Nature of Doctrine* (Philadelphia: The Westminster Press, 1984), 64.
[486] Ibid., 82.

dares to raise questions."[487] Theology seeks to reflect on God: who he is, what he requires from human beings and how he operates in the world he created. Humans query with passion, seeking answers so that quests for a fuller knowledge of God are aroused. Migliore further states that "theology grows out of this dynamism of Christian faith that incites reflection, enquiry, and a pursuit of truth not yet possessed, or only partially possessed."[488]

Theology as a means of raising questions brings up two points. The first is that no one will have the full picture or all the answers in this Earthly existence and so a quest for revelation and knowledge should never end. The other is that believers do not exist in a tabula rasa but "live in historical contexts that have their own distinctive problems and possibilities. The changing, ambiguous and often precarious world poses ever new questions for faith, and many answers that sufficed yesterday are no longer compelling today."[489]

There might not be a predominant or clearly favourite paradigm that has triumphed over others within theology. This is despite significant achievements in the dialogue between science and theology that have proven to be the launching pad for conducting further research and the gradual accumulation of knowledge. This results in a marketplace of paradigms, with practitioners trying to lure potential traitors from an adversarial camp, and progress made by adherents of these paradigms. Kuhn listed as an example the study of light. There was a time before Newton when there were a number of competing sub-schools: Epicurean, Aristotelian and Platonic. Each of these made important discoveries, but a paradigm was firmly established after Newton's work in this field.[490] Before this, Kuhn would have labelled that stage as a case of pre-normal science, which is characterised by a lack of a paradigm.[491]

There are at least two major competing schools within Christianity regarding how people are to be made right with God. Beginning with the Reformation in the early 1500s, Luther and other Protestants came to the conclusion that the prevailing Church of the time, the Church of

[487] Daniel L. Migliore, *Faith Seeking Understanding: An Introduction to Christian Theology*, 2nd ed. (Grand Rapids: W. B. Eerdmans, 2004), 2.
[488] *Ibid.*, 3.
[489] *Ibid.*, 4.
[490] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 12-13.
[491] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions*. (Chicago and London: The University of Chicago Press, 1993), 190-1

Rome, was in serious error. This precipitated a division between the Roman Catholic Church and what later would become the Protestant churches. Even within Protestantism there were schisms, despite the aim being "to return the church of Jesus Christ to its true New Testament foundation and rid it of all false teachings and corrupt practices. Unfortunately, there was no agreement on how this could be achieved and a unified Protestant theology and church could not be formed."[492]

The differences between the Roman Catholic Church and its opponents were neither merely cosmetic nor superficial, and they were so overwhelming that Protestants believed the Church needed to be *reformed.* The reaction from Rome was twofold: remove the worst practices of the Church, and officially affirm the teachings of the Roman Church. The Council of Trent, rather than unite Christianity, arguably further reinforced the existing division, where the doctrine of salvation was at the forefront. .

Such a division is the antithesis of 'normal science', which Kuhn believed is aimed at "the articulation of those phenomena and theories that the paradigm already supplies."[493] He pointed out that these are not trivial and stated that this type of focused and detailed research allows the scientist to make discoveries which could scarcely have been imagined at a previous point in history. An example in theology is provided by Bishop Alexander, who held the orthodox view of the nature of the Logos. He maintained that the Son coeternally existed with the Father. But Arius, in affirming the humanity of Christ, denied his pre-existence. Arius devised a Trinity where there was only one true God, even though there are three divine beings. The argument went back and forth and neither could have perhaps foreseen that the matter would become a pressing one for the Church to settle. Arius had begun to attract a multitude of followers and the Church hierarchy felt the issue had to be finally resolved. This controversy led to the establishment of ecumenical Councils to determine doctrine and truths, in particular about the person of God and the Trinity.[494] It was from these councils, like the Council of Nicaea in

[492] Roger E. Olson, *The Story of Christian Theology.* (Leicester: Apollos, 1999), 371.
[493] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 23-25.
[494] Ecumenical is not meant in the sense in which the word is used currently. Olson (p.157) notes that they were ecumenical in that there was a central presiding authority, they were universal in that bishops in apostolic succession and in fellowship with other bishops in the Great Church were invited and that over 1300 years later, the major

325, that the Nicene Creed emerged. Emperor Constantinople convened a Council with 318 bishops to make a decision regarding Arianism.[495] From this Council, twenty decrees and canons were written. Mainstream denominations would also agree with the seven councils: in Nicaea I, Constantinople I (381), Ephesus I (431) and Chalcedon (451), Constantinople II (553), Constantinople III (680-681) and Nicaea II (787).[496] The point is that neither Alexander nor Arius could have predicted how such a spat between them could have led to numerous councils with hundreds of bishops to settle questions of doctrine. This issue began fifty years before Arianism was declared a heresy. This ran against Newman's expectation, when he noted "that their [doctrine] continuity shown to this day, and the vigour of their operation are two distinct guarantees that the theological conclusions to which they are subservient are, in accordance to the Divine Promise, true developments, and not corruptions of the Revelation."[497]

Another example is how the doctrine of justification developed and is still being held true nearly 500 years later by many Christians. Luther himself would probably not have foreseen it was going to revolutionise Christianity. Lilje described the atmosphere regarding the publication of Luther's thesis:

> The actual publication of the theses was anything but a bid for publicity. No crowd, either students or citizens, surrounded the "Reformer" and nobody thought it a momentous occasion for the simple reason that were no onlookers. Luther and his *famulus* Agricola were alone.[498]

Luther only wanted to engage in an academic debate regarding indulgence papers which his parishioners kept producing. Lilje went on to note that, despite initially not eliciting any reaction, after his theses were circulated widely "the storm which raged through Germany was so violent that Luther felt as though his breath had been taken away."[499]

Luther's theses, and debates such as those between Arius and Alexander, led to further doctrinal developments which were initially unforeseen. Using the language of Kuhn, there was

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branches of Christendom recognised the ecclesiastical authority from a local council or synod of bishops were universal.

[495] Roger E. Olson, *The Story of Christian Theology.* (Leicester: Apollos, 1999), 151-4.

[496] Everett Ferguson, *Church History*, vol. 1, *From Christ to Pre-Reformation.* (Grand Rapids: Zondervan, 2005), 312.

[497] Newman, 353.

[498] Hanns Lilje, *Luther Now.* (Philadelphia: Muhlenberg Press, 1952), 71-72.

[499] *Ibid.*, 72.

a whole area which offered research due to the emergence of a new paradigm. Once a paradigm has been established, a consensus is formed among scientists and practitioners who work in this area. Kuhn wrote: "their pursuit is neither intended nor likely to produce fundamental discoveries or revolutionary changes in scientific theory."[500]

The paradigm sets the agenda, and scientists work within supporters of that agenda. This focus on a particular worldview allows for a concentrated and sustained effort on the part of a scientist so that progress is made. For instance, one of the paradigms Küng listed was the hellenisation of Christianity in its early history. In this epoch, Pelikan noted some of the central themes of Jewish theology were not carried through in Christian thought.[501] Though the Church first resisted the new Gentile Christian theology cast in the mould of Greek philosophy, it later accepted it; between 150 to 260 AD.[502] Referring to Harnack, Toon noted it was this early shift which transformed Christianity into a system of dogma. This initiated a trend for the contemplation of ideas (theology) and the formulation of doctrines.

5.2 Normal Science as Puzzle-Solving

Research, and the questions that are asked in normal science, resemble puzzles according to Kuhn. Normal science adds precision and lengthens the scope of the paradigm, never aiming to revolutionise or reformulate grand new theories or concepts. Walker remarks there is almost a deal scientists make with respect to the research they undertake. They are willing to forego thinking too much outside the square for a guarantee they will make slow, yet incremental gains within the framework they are operating in.[503] In return for this loyalty, this risk-aversion approach yields steady progress. Walker also mentions the work of Kahneman and Tversky,[504] who through prospect theory found humans are more likely to avert risk than seek huge-payoffs

[500] Thomas S. Kuhn, *The Essential Tension*. (Chicago, London: The University of Chicago Press, 1977), 233.
[501] Jaroslav Pelikan, *Development of Christian Doctrine*. (New Haven and London: Yale University Press, 1969), 62-63.
[502] Peter Toon, *The Development of Doctrine in the Church*. (California: Wm. B. Eerdmans Publishing Co., 1979), 58.
[503] Thomas C. Walker, "The Perils of Paradigm Mentalities: Revisiting Kuhn, Lakatos, and Popper", *Perspectives on Politics*, **8**, no. 2 (2010): 440.
[504] Daniel Kahneman and Amos Tversky, "Prospect Theory: An Analysis of Decision under Risk", *Econometrica*, **47** (1979): 263-91.

but at the risk of a high chance of a loss. To do otherwise is to risk isolation, obscurity or even hostility.

An illustration in Christianity of the many points raised is now demonstrated. The Council of Nicaea had decided on the nature of the person of Christ, but little attention was paid to the person of the Holy Spirit. Athanasius, Augustine and the Cappadocian Fathers wrote extensively on the personhood of the Holy Spirit. Using two different doxologies had caused a great deal of debate among the Greek Christians, according to Basil. Christopher Hall notes the doxology: "Glory to the Father, through the Son in the Holy Spirit" sounded familiar to the Greeks, whereas "Glory to the Father with the Son together with the Holy Spirit" proved troublesome.[505] This might seem pedantic, but Hall notes Basil would respond along the lines of "it is often in the small, seemingly insignificant steps of exegetical and theological reasoning – steps often built on key grammatical distinctions – that we frame the issues and determine the outcomes."[506] Basil eventually did tackle this issue in *On the Holy Spirit* where he detailed his study of Greek prepositions and the implications of the Spirit's titles. For Basil, a debate about the nature of Christ led to a major ecumenical Council and then a discussion of the nature of the Holy Spirit. Again, it is hard to imagine that an argument which began with two men could have led to an encompassing study and rigorous debate about two persons of the Trinity and their relationship to the Father. It could be argued Basil was working in the paradigm that led to the Nicene Creed: Christ was deemed to be one with the Father. Basil would have nothing to do with the Holy Spirit being relegated to second best. It was a natural progression that after establishing the nature of Christ, this discussion should move on to the Holy Spirit. Within the paradigm of investigating the personhood that composed the Trinity, puzzles in the form of questions such as "who is Christ?" and "who is the Holy Spirit?" were being discussed.

Thus, puzzles can be regarded as well-defined problems. Extraordinary science is less well-defined according to Kuhn. Goals, solutions and the paths needed to be taken are not as clear. It is arguably at this stage that paradigms are created. For normal, puzzle-solving science, the assumption is that the answer is attainable. If it is not reached, the fault lies with the scientist.

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[505] Christopher A. Hall, *Learning Theology with the Church Fathers.* (Downers Grove, IL: InterVarsity Press, 2002), 103-20.
[506] *Ibid.,* 103.

It is not the current theory that is at stake, but the ingenuity or problem-solving skills of the practitioner. Musgrave challenged this and noted that in research, unlike puzzles, one is never assured of the solution and the lack of an answer might not always be the scientist's fault, but the tool itself.[507] This problem was not lost on Newman, who pondered on the sufficiency of Scripture to answer all of the great questions:

> Great questions exist in the subject-matter of which Scripture treats, which Scripture does not solve; questions too so real, so practical, that they must be answered, and, unless we suppose a new revelation, answered by means of the revelation which we have, that is, by development. Such is the question of the Canon of Scripture and its inspiration: that is, whether Christianity depends upon a written document as Judaism;—if so, on what writings and how many;—whether that document is self-interpreting, or requires a comment, and whether any authoritative comment or commentator is provided;—whether the revelation and the document are commensurate, or the one outruns the other;—all these questions surely find no solution on the surface of Scripture, nor indeed under the surface in the case of most men, however long and diligent might be their study of it.[508]

Of course, the idea that the Scriptures are insufficient would be rejected by Protestants, but it nevertheless represents a boundary by which puzzle-solving can be taken so far before the first point by McGrath, *underdetermination* (the plausibility of interpreting data in a number of distinct ways), makes it impossible to go any further.

In fact, the catalyst for a revolution might be underdetermination itself. Musgrave called it problem-solving, rather than puzzle-solving, and this aspect of normal science allows the rejection of Kuhn's views as relativistic. Musgrave wrote:

> He [Kuhn] claims that the value most often appealed to in comparing rival theories is their "demonstrated ability to set up and solve puzzles presented by nature." Thus Kuhn is far from relativism, for there are theory-independent standards in the light of which a new theory may constitute progress over the old.[509]

Again, an unsolved puzzle is due to a scientist having failed to observe a rule or to recognise the consequences of a particular choice among the alternatives that are constrained by

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[507] Alan E. Musgrave "Review Article: Kuhn's Second Thoughts", *British Journal of the Philosophy of Science*, **22**, (1971): 287-97.
[508] Newman, 60.
[509] Alan E. Musgrave "Review Article: Kuhn's Second Thoughts", *British Journal of the Philosophy of Science* , **22**, (1971): 287-97.

the rules. This rule observance was also discussed by Pelikan in theology. He juxtaposed the way Newman saw the development of doctrine with Luther's beliefs. For Newman "a development was authentic if it stood in a systematic connection with other previous developments, forming one whole with them or being deducible from them."[510] Luther objected to this and instead criticised the criterion Newman later used. Though Luther maintained that to reduce theology to mere logical thinking was incorrect, Protestant theology also stressed "that the proper method of establishing doctrine as Christian was to establish its Scriptural source, not to locate it in the structure of a system of doctrine."[511] Newman believed Luther failed to observe a rule, namely, Luther derived theology outside of logic. Conversely, Luther believed that Newman had gone outside that which is and is not permissible in theology by restricting development to the rules of logic. In his *Disputation Against Scholastic Theology*, Luther remarked: "If a syllogistic form of reasoning holds in divine matters, then a doctrine of the Trinity is demonstrable and not the object of faith."[512]

There are dangers in working on puzzles within a paradigm. This confinement means any research outside of it, renders the work as either irrelevant or as belonging outside that discipline. Discussing the boundaries of a discipline, Polanyi would point out that most are defined by tradition. Polanyi wrote:

> To learn by example is to submit to authority. You follow your master because you trust his manner of doing things even when you cannot analyse and account in detail for its effectiveness. By watching the master emulating his efforts in the presence of his example, the apprentice unconsciously picks up the rules of the art, including those which are not explicitly known to the master himself.[513]

The reason may be due to Common Law which is decided in precedent because "this procedure recognizes the principle of all traditionalism that practical wisdom is more truly embodied in action than expressed in rules of action."[514]

When research is seen as not belonging to that particular discipline, this perceived transgression beyond its borders is met with hostility and opposition. For instance, the Age of

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[510] Jaroslav Pelikan, *Development of Christian Doctrine*. (New Haven, London: Yale University Press, 1969), 21.
[511] *Ibid.,* 20-1.
[512] Martin Luther *Disputation Against Scholastic Theology 49*.
[513] Michael Polanyi, *Personal Knowledge.* (London: Routledge, 1962), 53.
[514] *Ibid.,* 54

Enlightenment extolled reason above everything else and deemed theism as irrelevant and irrational. Theologians, in response, toned down the debate and instead aimed to take Christianity to its roots. Given the Thirty Years' War had just ended, many Christians wanted to stay away from politics and warfare. This meant Christianity was seeking to isolate itself from society and the issues of the time. Belief in God was perceived to be a hindrance to the advancement of knowledge according to many. For the first time, science and theism parted ways. Greeley echoes the sentiments of the Enlightenment by noting: "If scientific knowledge is the only form of human knowledge, then religion, which can make no claim to the scientific method, can survive only as long as ignorance and superstition prevent humans from understanding science."[515] However, towards the end of this paradigm, revelation was dismissed. Barbour remarked: "The Enlightenment of the first generation supported both natural and revealed religion; those of the second adhered to natural religion but rejected revelation. By the third generation there were skeptical voices calling for the rejection of all forms of religion."[516] Hence, the paradigm from the Reformation was markedly different to that of the Enlightenment. The high reputation afforded to science relegated theology and the formation of doctrine so that they were seen "as the concern of another discipline, or sometimes as too problematic to be worth the time."[517] This illustration now leads to a discussion of paradigms.

5.3 Paradigms

The term *paradigms* became synonymous with Kuhn's ideas and thoughts after he first used it. Subsequently, different meanings of it were correctly and sometimes incorrectly attributed to him. He defined it in the following manner: "A paradigm is what members of a scientific community share, and conversely, a scientific community consists of members who share a paradigm."[518] And he defined a community as "practitioners of a scientific specialty."[519]

[515] Andrew M. Greeley, *Religious Change in America*. (Cambridge: Harvard University Press, 1996), 2.
[516] Ian Barbour, *Issues in Science and Religion*. (Various: Prentice Hall, 1966), 56.
[517] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 37.
[518] *Ibid.*, 175.
[519] *Ibid.*, 176.

Barbour devoted a section to the role of the religious community and wrote: "Inquiry occurs in the context of a community which shares common purposes, attitudes, hopes and loyalties."[520] A paradigm encompasses the filters through which data are interpreted and the community is the group of people who agree with this paradigm. A paradigm needs a community to allow inquiry and research to be performed and a community is joined together by a common understanding on the way experiences are to be understood. [521]

It was noted earlier that epistemology in Christianity is different to any other type of similar enquiry. It involves communion with a personal God. Yet there is an inherent limit on what a human knows compared to God's knowledge. Torrance believed theological enquiry, by its very nature, implies asking to go beyond a person's understanding and experience. On the other hand, there are the boundaries of the object of enquiry itself.[522] This is yet another limit for the theologian to bear in mind, despite Kuhn never having described this aspect of paradigms. There are at least three different creedal worldviews within Western Christianity. There is the Roman Catholic Church which believes doctrine is developed in a linear manner and heresy is eventually discarded. Lutherans, on the other hand, would maintain Martin Luther alerted the Church to corruptions and teaching which deviated from that of the true Church. Evangelical Protestant theology, spearheaded by the likes of Calvin and Zwingli, would claim that Luther did not go far enough and kept many of the redundant, liturgical vestiges of the Roman Catholic Church. They affirmed Luther's doctrine of justification, but disagreed with Luther on some points regarding the ordinances or sacraments, Church order and the authority of the Church.

Centuries earlier, differences in the Church existed between the Eastern Orthodox churches and the West. The former were heavily influenced by John Chrysostom, John of Damascus and Maximus the Confessor; while the West took its cue from Augustine.[523] Kuhn envisioned paradigms to be encompassing and comprehensive. They do not merely describe a single idea, technique or method but rather a whole worldview. They provide guidance and a locus to a community of scientists (or to believers in the case of Christian doctrine). Thomas

[520] Ian Barbour, *Issues in Science and Religion*, (Prentice Hall, 1966), 214.
[521] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions.* (Chicago, London: The University of Chicago Press, 1993), 8-9.
[522] Thomas F. Torrance, *Theological Science.* (Edinburgh: T&T Clark Limited, [1969] 1996), 129.
[523] Roger E. Olson, *The Story of Christian Theology*. (Leicester: Apollos, 1999), 290-303.

Walker notes: "Kuhn's paradigm comes to provide worldviews, theories, and methods (rules and standards for scientific practices) to a tightly-bound and highly-invested research community."[524]

Terence Kennedy pointed out Kuhn was not the only one to advocate what he calls a "truth by consensus" approach.[525] Before Kuhn, Polanyi also made a substantial contribution to the notion of paradigm analysis. However, there were subtle differences in their approaches: Polanyi's thoughts in this matter were more unified and cogent than that of Kuhn because of Polanyi's view on the knower-known relationship. Polanyi made use of Gestalt psychology to describe the transformation of a scientist's perception about the world.[526] Therefore, while Kuhn took a historiographical approach to science, Polanyi delved deeper into the mind and the shift in thinking that takes place in order for a practitioner to abandon a paradigm and take up another. He discussed the consensual ground of scientific judgment. The foundation for such consensus is what he calls plausibility. An idea has to first be plausible, and it is then tested by science. But, the actual manner by which an idea is plausible is not demonstrable and is instead guided by intuition which is itself guided by subtle indications, according to Polanyi. Science might claim that an idea is tested, and then a particular theory or hypothesis is proven true or false, but the genesis of that hypothesis is one that lies outside of science and is not itself tested. The manner by which an idea is born is tacit and unable to be proven in the scientific sense.[527] If this is true for science, which prides itself in objectivity and only dealing with facts, then this would be even more likely in the development of doctrine. In describing the Enlightenment and its effect on scientific enquiry, Popper noted this tacit confidence on human ability and intellect. He wrote:

> The birth of modern science and modern technology was inspired by this optimistic epistemology whose main spokesmen were Bacon and Descartes. They taught that there was no need for any man to appeal to sources of authority in matters of truth because each man carried the sources of knowledge in himself; either in his power of sense-perception which he may use for the careful observation of nature, or in his power of intellectual intuition which he may use to

[524] Thomas C. Walker, "The Perils of Paradigm Mentalities: Revisiting Kuhn, Lakatos, and Popper", *Perspectives on Politics*, **8**, no. 2 (2010): 435.
[525] Terence Kennedy, "From Paradigms to Paideia: Thomas S. Kuhn and Michael Polanyi in Conversation", *Bulletin of Science, Technology and Society*, **31**, no. 3 (2011): 194.
[526] Crewdson, as cited by Kennedy.
[527] Michael Polanyi, *Knowing and Being*. (London: Routledge & Kegan Paul, 1969), 76,79.

> distinguish truth from falsehood by refusing to accept any idea which is not clearly and distinctly perceived by the intellect.[528]

Popper labelled this "epistemological optimism." This is in sharp contrast to pessimism which he remarked is historically linked to the doctrine of human depravity as it (doctrine) requires "the establishment of powerful traditions and the entrenchment of a powerful authority which would save man from his folly and his wickedness."[529] There would seem to be some truth to this. In the development of doctrines and teaching, theologians have routinely appealed to authority and traditions. However, the tone by Popper is contemptuous of why this should take place at all. Christians appeal to the authority of the Bible and often to traditions as well. The Enlightenment placed the onus on individual autonomy and dismissed any external authority. But, by humanity looking inside itself for the answers, one needs to ask the question: how is it possible to know this innate knowledge is the same in everybody else? This is also the assertion by Popper who stated: "Once the naked truth stands revealed before our eyes, we have the power to see it, to distinguish it from falsehood, and to know that it is truth."[530] However, Popper later acknowledged the role of tradition and its appeal to authority. He noted that: "Most things we know we have learnt by example, by being told, by reading books, by learning how to criticize, how to take and to accept criticism, how to respect truth."[531]

Popper decried and railed against "traditionalism", which is the appeal to the past for past's sake. Yet, he readily admitted knowledge did not start from nothing and the advance of knowledge "consists mainly in the modification of earlier knowledge."[532] Kuhn would add the caveat that this might not be a conscious choice. Human biases and preconceived ideas are deeply buried within each person and it is not obvious when they manifest themselves in scientific endeavours, or, in this case, the formulation of Christian doctrine. Polanyi called this subsidiary awareness and detailed its link to scientific discoveries:

> Discovery comes in stages, and at the beginning the scientist has but a vague and subtle intimation of its prospects. Yet these anticipations, which alert his solitary mind, are the precious gifts of his originality. They contained a deepened sense of the nature of things and an awareness of the facts that might serve as clues to a

[528] Karl Popper, *Conjectures and Refutations.* (London, New York: Routledge, 2002), 7.
[529] *Ibid.,* 7.
[530] *Ibid.,* 7.
[531] *Ibid.,* 36.
[532] *Ibid.,* 36-37

> suspected coherence in nature. Such expectations are decisive for the inquiry, yet their content is elusive, and the process by which they are reached often cannot be specified. It is a typical feat of discovery without awareness.[533]

This also shows itself to be true in the history of the development of Christian doctrine. Luther's disputations were borne out of his own personal struggles and they were the result of what he observed as being in discord with what he felt to be right and true. The use of ideas in Greek philosophy to combat heresies by early Christian apologists is another example. They were perhaps unaware of the legacy they would leave behind and their contribution in growing the knowledge of the Christian faith. The same could be said of Athanasius: he was crucial in laying down the foundation of the true relationship between the Father and Son. But he would not have realised it would be the Cappadocian fathers who would put the question to rest.[534] For Athanasius, this was not merely a trivial question of theology, but rather the issue struck at the core of what salvation means.

Alasdair MacIntyre wrote extensively on paradigms and mostly agreed with Kuhn. MacIntyre believed paradigm changes not only occurred historically, but also epistemologically. Like Polanyi, MacIntyre stressed the relationship between reason and tradition. They both also subscribed to an objective reality which presents itself to fallible beings. Polanyi and MacIntyre both noted that knowing requires antecedent belief thereby being in agreement with Augustine's *fides quaerens intellectum.* [535]

Again, Kuhn alluded to the shared beliefs that govern a community towards research, but does so more from a historical perspective than Polanyi and MacIntyre. In moving away from the confusion and myriad of definitions attributed to the word *paradigm*, he later defined these shared beliefs as a *disciplinary matrix* with respect to a constellation of beliefs.[536] This disciplinary matrix sets out the boundaries for what might be discussed and researched. This

[533] Michael Polanyi, *Knowing and Being*. (London: Routledge & Kegan Paul, 1969), 143.
[534] Roger E. Olson, *The Story of Christian Theology*. (Leicester: Apollos, 1999), 172.
[535] Mark T. Mitchell "Michael Polanyi, Alasdair MacIntyre, and the Role of Tradition", *Humanitas,* **19**, no. 1 & 2 (2006): 108.
[536] Alan E. Musgrave, "Review Articles: Kuhn's Second Thoughts", *British Journal of the Philosophy of Science*, **22** (1971): 291

means, as Alan Musgrave pointed out, that a community may not necessarily be in accord among themselves with everything.[537]

Kuhn described four relevant components of a disciplinary matrix.[538] This is an overarching term used by Kuhn to describe all the theories shared by a practicing community of scientists that allow them to work together and make progress in their field. The first is called "symbolic generalizations". Musgrave remarked that "they function as both laws and partly as definitions of their symbols, with scientific practice depending greatly on which function they are performing, and that the balance between these functions often changes over time."[539] They are not laws but rather law-sketches because they provide different results according to the context in which they are used. Lindbeck, with regards to doctrine, similarly suggested a more helpful approach is to use a regulative view rather than propositional or axiomatic statements. For Lindbeck, doctrines should be defined as rules rather than propositions. Calling it the rule theory, he described their rule-like behaviour in the following manner:

> It does not locate the abiding and doctrinally significant aspect of religion in propositionally formulated truths, much less in inner experiences, but in the story it tells and in the grammar that informs the way the story is told and used. From a cultural-linguistic perspective … a religion is first of all a comprehensive interpretive medium or categorical framework within which one has certain kinds of experiences and makes certain kinds of affirmations.[540]

Thus paradigms are guides rather than specific formulations, while in theology these would refer to essentials of the Christian faith without being prescriptive in their use. For instance, nearly all Christians believe in baptism and the Lord's Supper. They would agree that for baptism, water is needed and that for the Lord's Supper, which is sometimes referred to as Communion or the Eucharist, a liquid from grapes and some form of wheat is needed. However, for baptism some believe that it should be done by immersion, others by sprinkling; some that it should be for believing adults only and others that it should also apply to children of believing parents. And with regard to the Lord's Supper, some use grape juice (administered through

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[537] *Ibid.*,291-92.
[538] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 181-86.
[539] Alan E. Musgrave, "Review Articles: Kuhn's Second Thoughts", *British Journal of the Philosophy of Science*, **22** (1971): 291-92.
[540]George A. Lindbeck, *The Nature of Doctrine.* (Philadelphia: The Westminster Press, 1984), 80.

individual thistles or drunk from a chalice by the presiding cleric), and accompanied with bread (sometimes unleavened or broken-up biscuits).

Metaphysical beliefs are the second component. Whilst they are helpful in providing guidance as to which puzzles are "allowed" to be solved, the main distinction with Kuhn's definition of paradigms is that not all members of the community might agree. These beliefs might not be shared by all members, but these disagreements are not major enough to hinder problem or puzzle-solving. Examining Protestant theology, there is some disagreement regarding church order: the Presbyterian Church would maintain the head of each congregation is the council of elders, with the minister being only a special elder. There may also be state and general assemblies. However, Congregationalists, who are closely related to the Presbyterians historically and theologically, believe each congregation works independently and autonomously. Yet Presbyterians and Congregationalists would both assert the veracity of creeds like: the fallen nature of humanity, the sufficiency of the Scriptures, the doctrine of justification and the sovereignty and grace of God.

This leads to the third component that comprises of:

> … values that are to be attached to theories, like consistency or the ability to yield precise predictions and to suggest fertile problems … [these values] more widely shared among different communities than either symbolic generalizations or models, and they do much to provide a sense of community to natural scientists as a whole.[541]

An example would be to love God and other human beings; do not steal; do not commit adultery, etc. There is a universality and consensus to these values that are agreed upon and transmitted across different communities and ages.

The fourth are exemplars and refer to the types of problems students mainly encounter in their studies. The paradigms are types of shared examples which help the student to crystallise and give empirical content to the laws and theories learned earlier. In Christianity, these could refer to the particular problems relevant to certain denominations. For instance, a pressing issue

[541] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 184.

with some Protestant churches would be to determine whether a particular person is suitable to be an elder or a deacon. Is he of good character and does he lead his family well?

Within Christianity, Küng believed there might be several levels of paradigms, thereby creating a paradigmatic pyramid.[542] He describes three layers: macroparadigms, mesoparadigms and microparadigms. For instance, the Thomist, Augustinian, Alexandrian and Reformation models are types of macroparadigms. The mesomodels deal with solutions of intermediate problem areas, listing as examples the doctrine of grace, creation and the ordinances/sacraments. Micromodels look for solutions to detailed problems (doctrine of original sin, the hypostatic union in Christology). Macromodels provide a framework or worldview through which Christianity is to be understood and from which Christian doctrines may proceed. One can think of macromodels as dealing with theology; they represent reflection and meditation about God, who God is, his relationship to the world as well as a person's relationship to God and the relationship between people with respect to God. This is the starting point from where doctrines and the teachings of the Church emanate. Hence, paradigms reflect a set of beliefs and a particular worldview and guide the theologian towards answering puzzles and problems. When an answer to those puzzles does not neatly fit within that paradigm this would be set aside and labelled as an anomaly.

5.4 Anomalies

Normal science does not attempt to find new and unsuspected results. Instead, it refines and confirms the paradigm which guided the research in the first place. This suggests a paradox of sorts: even though paradigm change is rare and often encounters resistance by the community of practitioners, "research under a paradigm must be a particularly effective way of inducing a paradigm change."[543] Hoyningen-Huene states that normal science is a key aspect in discovering

[542] Hans Küng, *Theology for the Third Millennium.* (New York: Doubleday, 1990), 134.
[543]Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 52.

anomalies. A dialectic presents itself: one cannot know what is an outlier or an unexpected result unless one also knows what normalcy is.[544]

The work of Pierre Duhem allowed McGrath to provide an interesting discussion on the relationship with anomalies in religion.[545] McGrath touches on the issues of underdetermination because it deals with the inability to reconcile theory with observations. Popperian falsificationism means no amount of observations or data could ever fully confirm a theory and there could always be the presence of an anomaly or outlier which would call into serious doubt the validity of an established and accepted scientific statement. McGrath recalls that Duhem discussed the interaction between theory and practice, and in particular, the role of anomalies. Before McGrath, Duhem's ideas were adopted by Willard Orman Quine which led to the Dunham-Quine thesis which states: "… where experience seems to contradict a worldview or system of beliefs, the most likely outcome is an internal readjustment of the system, rather than its rejection."[546]

This both reinforces and contradicts Popper's assertion regarding theoretical systems. It reinforces it because it highlights the internal coherence present in a system and the unlikelihood of there being anomalies. However, it also contradicts it because Popper believed a new scientific theory is chosen *a priori* to fit in with the established system. If an anomaly occurs, and a readjustment is needed, this suggests there was an error in the way the theory was chosen. Lindbeck also noted this issue of coherence is true for religious domains. However, unlike the mathematical sciences,

> … a religious system is more like a natural language than a formally organized set of explicit statements, and that the right use of this language unlike a mathematical one, cannot be detached from a particular way of behaving … [Nevertheless] like a mathematical system, it seeks to be a coherent whole within which … truth or falsity of particular utterances is of fundamental significance.[547]

An example listed by McGrath is the theology of suffering. It was listed and reformulated as the following four hypotheses:

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[544] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions.* (Chicago, London: The University of Chicago Press, 1993), 223-8.
[545] Alister E. McGrath, *A Scientific Theology*, vol. 3, *Theory*. (London, New York: T&T Clark, 2003), 198-213.
[546] *Ibid.*, 201.
[547] George A. Lindbeck, *The Nature of Doctrine*. (Philadelphia: The Westminster Press, 1984), 64.

H_1 God is omnipotent and omniscient.

H_2 God is completely good.

H_3 The world contains instances of suffering and evil.

H_4 A good omnipotent God would eliminate suffering and evil.

Only H_1, H_2 and H_4 are logical propositions while H_3 is an empirical observation according to McGrath. These can be rewritten in the following manner:

H_1 God is omnipotent and omniscient.

H_2 God is completely good.

And with the added observation statement:

O = The world contains instances of suffering and evil.

There is no longer a logical contradiction. The mismatch between statements which are purely logical, and the ability of a theory to accommodate observation or empirical data, are now the issues to be resolved. The other hypothesis yet to be accommodated is H_4. McGrath notes that no one can have enough confidence in human ability to determine that God does not have a good reason to allow some of the suffering to exist in the world. McGrath concludes the presence of evil and suffering reveals an anomaly instead of constituting its formal rebuttal. Laudan expresses the same sentiment:

> Theology, like metaphysics, is often alleged to be empirically transcendent and thus devoid of empirical problems. But few traditional theologians or historians of theology would subscribe to such a view. For instance, the "problem of evil" is at its core an empirical problem *par excellence*: how can one maintain one's belief in a benevolent, omnipotent deity in the face of all death, disease, and natural disasters which are a daily element of our experience?[548]

For a Christian, these sufferings often exist within the context of one's local, social and personal circumstances. However, the belief is that many of these anomalies will be resolved at the end of time. A devout Christian living in abject poverty may wonder why a gracious God

[548] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 190.

who is able to provide could let him or her continue to live under those current conditions. McGrath again points out that Duhem also has a solution to this dilemma. It is not based on logic or rational thinking, but based on 'good sense' which is borne out of these two factors:[549]

1. It is often impossible to choose between competing theories on the basis of the evidence available.

2. A choice nevertheless must be made.

This is not limited to theology, according to McGrath. In quantum mechanics, a choice must be made between the Copenhagen and de Broglie-Bohm models, among others. Niels Bohr and Werner Heisenberg's Copenhagen model postulates that natural change involves indeterministic transitions between discrete stationary states.[550] The model by Louis de Broglie, and later David Bohm, suggests particles always have definite positions at all times and are guided by the wave function. However, determining the position and velocity simultaneously is still subject to the Uncertainty Principle constraint.[551]

In its early stages, a paradigm exhibits a type of elasticity that is able to accommodate new discoveries. Unexpected novel results are not discarded, but evoke a change in the worldview or set of beliefs to account for it. This would be the case for a theology that sees God as open-ended with respect to human knowledge. If God is flexible and in human terms may act in unexpected ways, then anomalies in the formation of Christian doctrine are plausible. This is particularly the case if God interacts in ways not observed in the past. Peacocke maintained God could act in a humanly unpredictable manner toward his creation to bring about his will.[552] A crucial aspect Kuhn listed in deciding whether an anomaly is welcomed is in the ability to adjust and revise the existing paradigm.

According to Kuhn, the importance of measurements becomes obvious when an anomaly occurs. This happens in two ways: through discovery and confirmation. Yet Kuhn stressed that during a scientist's lifetime, he or she will come face to face with a myriad of anomalies or

[549] Alister E. McGrath, *A Scientific Theology*, vol. 3, *Theory*. (London and New York: T&T Clark, 2003), 210-1.
[550] Henry Pierce Stapp, "The Copenhagen Interpretation," *American Journal of Physics* (1972): 1098-116.
[551] Peter J. Lewis, "How Bohm's Theory Solves the Measurement Problem," *Philosophy of Science* 74, no. 5 (2007): 749-60.
[552] Arthur Peacocke, *Theology for a Scientific Age*, 2nd ed. (London: SCM Press Ltd, 1993), 153.

discrepancies which are mostly dismissed. Discoveries do not often make the scientist abandon his paradigm as most anomalies typically disappear when investigated more closely. This takes place through a number of ways: through instrumentation error, previously unnoticed approximations in the theory, or they may prove to be an aberration and disappear once the experiment is repeated.[553] However, there are instances where these anomalies cannot be explained away or they persist despite numerous experiments. This may result in the beginning of a "crisis" or "abnormal situation". The scientist will try to do whatever he or she can to shed light on this difficulty. But if these problems persist, they might prompt scientists to wonder whether their approach and techniques are somehow in error.[554]

Popper did not call these *anomalies*, but instead saw them as unexpected or unexplained observations which led to new problems. It is these observations that can lead to the discovery of more problems and lead to a growth of scientific knowledge. Problems are the catalyst through which science progresses. For Popper, this is a slow and steady approach and the only factors affecting the growth of science are strictly confined to the observations which may affect a theory. The problems requiring solving simply increase in complexity:

> Thus we may say that the most lasting contribution to the growth of scientific knowledge that a theory can make are the new problems which it raises, so that we are led back to the view of science and of the growth of knowledge as always starting from, and always ending with, problems – problems of an ever increasing depth, and an ever increasing fertility in suggesting new problems.[555]

Anomalies ultimately demonstrate an inherent tension between the role of particulars, such as unexpected results or anomalies, and the proposal of new theories. McGrath argues that in a quest to build theories to explain phenomena, or in the case of Christianity, develop new teachings or doctrines to describe the faith, this could lead to dismissing the mysterious. In advancing or suggesting new doctrines, "a predisposition to theoretical reduction can hinder the appreciation of mystery, not least by impelling us towards premature theological foreclosure."[556] Although particulars give rise to theories, these same theories can then prevent the discovery of new particulars. This tension can hinder the growth of doctrine. McGrath points out this paradox,

[553] Thomas S. Kuhn, *The Essential Tension.* (Chicago, London: The University of Chicago Press, 1977), 202.
[554] *Ibid.*, 203.
[555] Karl Popper, *Conjectures and Refutations.* (London, New York: Routledge, 2002), 301.
[556] Alister E. McGrath, *A Scientific Theology*, vol. 3, *Theory.* (London, New York: T&T Clark, 2003), 38.

i.e. “Theory thus possesses simultaneously the ability to illuminate and conceal the world of particulars. It is as if the two realms are mutually necessary, yet permanently in tension.”[557]

Lakatos also discussed anomalies. His views on abnormal findings are similar to those of Kuhn. According to Lakatos, even the most progressive research can only absorb these anomalies in a piecemeal manner but they are never quite eradicated.[558] All of these counterexamples are placed into an “auxiliary belt”. There they are either resolved or may lead to the replacement of the research programme. Lakatos remarked that there is nothing random in the way a scientist accommodates these anomalies. Later calling them “refutations”, Lakatos believed they can be anticipated by the scientist in advance. This is mostly, but not always true in science; otherwise crises in science would not occur and the paradigm could always accommodate these irregularities. Lakatos declared that “anomalies are listed, but shoved aside in the hope that they will turn, in due course, into corroborations of the programme.”[559]

An example of an anomaly that later led to a paradigm change is Protestantism. Although more than simply the work of Martin Luther, it is illustrative to recall his own experience as analogous to “abnormal science”. Initially, Luther rose rapidly in the Augustinian order as a monk and in 1508 he was recalled from a temporary instructorship at the University of Wittenburg to Erfurt by his superiors. However, Luther was restless. Lilje wrote:

> At that time he suffered severe inner conflicts. We know that during his stay at the monastery he had eagerly engaged in all pious practices which the medieval church recommended for the salvation of souls. Luther still looked upon the monastery as a refuge which could guarantee eternal salvation. But he could find no assurance in the countless spiritual exercises, the many opportunities for self-examination, and the pronouncements of ecclesiastical absolution.[560]

The paradigm of the time meant salvation could be found within the confines of the monastery, but Luther experienced this not to be the case and it was not something which he could simply put aside to be resolved later. Lilje stated: “in the kind of spiritual crisis he experienced, the number of observances makes little difference because the crisis itself stems

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[557] *Ibid.*, 42.
[558] Imre Lakatos, *The Methodology of Scientific Research Programmes*. (Cambridge: Cambridge University Press, 1978), 49-50.
[559] *Ibid.*, 52
[560] Hanns Lilje, *Luther Now.* (Philadelphia: Muhlenberg Press, 1952), 64.

from the search for a new kind of life."[561] Hans Schwarz also writes that: "Luther found no rest in his spiritual life. He sensed the wrath of God more keenly than most others of his time. Even the study of the Bible did not help him, because there he read only of the righteousness of God."[562]

Note the order in Lilje's statement: first there was a "search". That is, a question needed an answer and when the views at the time were not able to provide a resolution, this created in turn a crisis. Kuhn used the same language to describe an anomaly. An obvious question is to wonder what caused this anxiety within Luther. What was the question he was seeking an answer to? This was phrased in the following manner: "He had to know whether he could stand before God at all. He felt he was lost unless he could find an answer to this question."[563]

Luther understood well the current paradigm; and as such it was not simply an intellectual struggle. It was not a matter of Luther needing to understand or learn more and the answer would eventually come. There was something lacking, and his training and education were of no help in resolving the problem. Again, Lilje wrote,

> Luther's whole quest appears obscure to modern man because it moves in another direction and is couched in the language and thought forms of the Middle Ages. It should cause no great surprise that Luther thought in terms which his monastic education had made familiar to him.[564]

During this crisis Luther had a mystical experience while reading Romans 1:17: "The gospel … is the power of God unto salvation … For therein is the righteousness of God revealed from faith to faith: as it is written, The just shall live by faith." Luther saw for the first time the righteousness of God as loving and sweet, and one "which enables the just to live by the gift of God."[565] This realisation led Luther to modify his teaching so that "this new understanding of the Scriptures soon found its way into [his] lectures on exegesis at the university."[566] Luther's

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[561] *Ibid.,* 64.
[562] Hans Schwarz. *Truth Faith in the True God: An Introduction to Luther's Life and Thought.* (Minneapolis: Augsburg Press, 1996), 8.
[563] Hanns Lilje, *Luther Now.* (Philadelphia: Muhlenberg Press, 1952), 65.
[564] *Ibid.,* 65.
[565] Hans Schwarz, *Truth Faith in the True God: An Introduction to Luther's Life and Thought.* (Minneapolis: Augsburg Press, 1996), 17.
[566] Hanns Lilje, *Luther Now.* (Philadelphia: Muhlenberg Press, 1952), 68.

theological reflection planted the seed for a "new" kind of teaching which would launch the Reformation movement. Heiko Oberman stated:

> Luther's discovery was not only new, it was unheard-of; it rent the very fabric of Christian ethics. Reward and merit, so long undisputed as the basic motivation for all human actions, were robbed of their efficacy. Good works, which Church doctrine maintained as indispensable, were deprived of their basis in Scripture. This turnaround touched on more than individual faith and righteousness; the totality of life was affected and thus had to be reconsidered. Throughout the coming years of confrontation and conflict, there was only one objective: to unfold the implications of this discovery and to see to it that they gained a wide hearing.[567]

The old paradigm had failed to answer a crucial problem, prompting Luther to find a solution. This meant a complete re-evaluation of what he had been taught. His paradigm on understanding the righteousness of God had been changed so radically that under interrogation in the Diet of Worms, when asked to recant, he replied: "My conscience is captive to the Word of God. Thus I cannot and will not recant, for going against my conscience is neither safe nor salutary. I can do no other, here I stand, God help me. Amen."[568] Unbeknownst to him at that time, this would put him at odds with the "old practitioners" of the dominant paradigm. Yet Luther did not set out to cause a fuss or trouble for the established order. As Bernhard Lohse noted: "Luther was not even aware of such a contrast between himself and Rome before the controversy on indulgences."[569] He did not want to overthrow the tradition or make a name for himself. Indeed, "it is characteristic of Luther that at first he did not contemplate anything resembling a public protest but planned instead for an academic debate."[570] It all began with Luther wanting to help the church with regard to the question of "indulgences" – the notion that one could be absolved of sin through a simple financial transaction with the Roman Catholic Church. Furthermore, his theses, written in Latin, were targeted at the scholars and academics. He had not anticipated the furore that the theses would cause throughout the world. The Roman Catholic Church did not initially react, but when it saw Luther's ideas influencing the common people and leading to the Church not receiving as much income from the sale of these

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[567] Heiko A. Oberman, *Luther: Man Between God and the Devil*, Tr. by Eileen Walliser-Schwarzbart. (New Haven, London: Yale University Press, [1982] 2006), 154.
[568] *Ibid.*, 203.
[569] Bernhard Lohse, *Martin Luther: An Introduction to His Life and Work*, Tr. by Robert C. Schultz. (Philadelphia: Fortress Press,1986), 30.
[570] Hanns Lilje, *Luther Now* (Philadelphia: Muhlenberg Press, 1952), 71.

"indulgences", it responded.[571] When Luther was threatened with death if he did not recant, he fled and stayed in hiding for ten months at Warburg Castle where he began to translate the Bible into German from the original Greek. It was well-translated and it had an immediate impact.[572] For the first time, the common German people had ready access to the Scriptures in their own language prompting a crisis between himself and the established Roman Catholic Church. However, there were also other factors at play. Reinforcing the complexity present in a revolution, there were a myriad of forces that led to a paradigm shift. For instance, Worthing notes that there was also a conflict between the Augustinians and Dominicans at the time. Luther, as an Augustinian friar, was heavily opposed by Dominicans who were the theological adversaries of the Augustinians.[573] But, before a paradigm shift occurs, a crisis ensues.

5.5 Crisis

> Concerning the role of a crisis with respect to paradigms, Küng remarked:
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> As in natural sciences, so also in the theological community, awareness of a growing crisis, is the starting point for the advent of a drastic change in hitherto prevailing basic assumptions, and eventually causes the breakthrough of a new paradigm or model of understanding.[574]

Citing Leslie Dewart, Toon noted that the only "form" theology should take is of a continual state of renewal. He pointed out that "if 'the form' of Christianity since primitive times is to disappear, all previous discontinuities – between the apocalyptic and the institutional, between 'charismatic authority' and 'ecclesiastical office', between Jewish and non-Jewish observance – seem together to constitute the 'form'."[575]

Illustratively, Kuhn's famous example in the natural sciences, the Copernican revolution, also applies to different aspects of the development of Christian doctrine. The emergence of Copernican astronomy came up against the prevailing Ptolemaic system, which developed

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[571] Mark W. Worthing, *Martin Luther: A Wild Boar in the Lord's Vineyard.* (Northcote: Morning Star Publishing, 2017), 18.
[572] *Ibid.*, 173-86 (Appendix III).
[573] Mark W. Worthing, "German Inter-Monastic Politics and the Reformation of the Sixteenth Century," *Luther Theological Journal* 48, no. 2 (Aug. 2014): 115-27.
[574] Hans Küng and David Tracy, eds., *Paradigm Change in Theology*, Tr. by. Margaret Kohl. (New York: Crossroad, 1991), 20.
[575] Jaroslav Pelikan, *Development of Christian Doctrine*. (New Haven, London: Yale University Press, 1969), 20-31.

around two centuries before Christ and insisted the sun rotated around the Earth. It was successful in predicting the changing positions of both stars and planets with Ptolemy's predictions as good as Copernicus'. However, minor discrepancies upon observations arose. Attempts were made at correcting those, but it was soon found that complexity was increasing at a much faster rate than its accuracy.[576] By the sixteenth century, the problems had become so insurmountable that Copernicus had decided to reject the Ptolemaic paradigm and went in search of a new paradigm. Kuhn wrote: "the astronomical paradigm was failing in application to its own traditional problems."[577] Thus, one of the key ingredients for a crisis being born is technical problems. There is a realisation that the model which had proved so useful in the normal puzzle-solving sense was no longer adequate. Lindbeck also noted "only when disputes arise about what is permissible to teach or practice does a community make up its collective mind and formally make a doctrinal decision."[578]

According to Lindbeck, decisions are not made nor doctrines created unless there is a real need for them. Hoyningen-Huene argues that a crisis resembles prenormal science but with the exceptions that there are broad domains of specialised knowledge and that there is an awareness of the problems that needs to be solved.[579] When these problems become numerous and questions can no longer be answered, then a crisis ensues. However, this is not the sole contributing factor towards a search for a new paradigm. For example, in Christianity, medieval criticism of Aristotle and the rise of Renaissance Neoplatonism were significant influences in the rise of scholasticism. Another strong force in wanting a new paradigm is sudden changes in the theories. This suggests that development is not cumulative.[580] Kuhn, who also wrote an entire book on the Copernican revolution, stated that the change from a geocentric to a heliocentric model was more than simply a reformulation of planetary movements as had been understood. It also had political, philosophical, scientific and religious implications.[581] Kuhn asserted that:

[576] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 68-69.
[577] *Ibid.*, 69.
[578] George A. Lindbeck, *The Nature of Doctrine*. (Philadelphia: The Westminster Press, 1984), 75.
[579] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions*. (Chicago, London: The University of Chicago Press, 1993), 234.
[580] Thomas S. Kuhn, *The Road Since Structure* (Chicago, London: The University of Chicago Press, 2000), 15.
[581] Thomas S. Kuhn, *The Copernican Revolution* (Cambridge: Harvard University Press, 1970).

> … initiated as narrowly technical, highly mathematical revision of classical astronomy, the Copernican theory became one focus for the tremendous controversies in religion, in philosophy, and in social theory, which, during the two centuries following the discovery of America, set the tenor of the modern mind.[582]

Moving from one model to the next was more than mere quantitative qualification or revision. In the Ptolemaic paradigm, for instance, the moon and the sun were planets, whereas the Earth was not. The change from one system to another required a new way of looking at the solar system, rendering the Ptolemaic model incompatible or incommensurable with the old. A novel theory or the proposal of a new paradigm is a direct response to a crisis. The failures in the old-paradigm were persistent and not simply a one-off. As Kuhn put it, "neither problems nor puzzles yield to the first attack."[583] Polanyi alluded to this idea by noting each framework solves its own set of problems and omits any inclusion of those questions that the current model cannot solve. They are not only different but they are also separated by a gap which logic cannot bridge. Polanyi described it in the following manner:

> Any such framework is relatively stable, for it can account for most of the evidence which it accepts as well established, and is sufficiently coherent in itself to justify to the satisfaction of its followers the neglect for the time being of facts, or alleged facts, which it cannot interpret.[584]

Polanyi also denied the notion that a change in the way of thinking is completely determined by objective reasoning. Rationality is not completely dismissed, but there are other factors at play requiring almost a leap of faith in order to accept a new paradigm. Polanyi wrote:

> Proponents of a new system can convince their audience only by first winning their intellectual sympathy for a doctrine they have not yet grasped. Those who listen sympathetically will discover for themselves what they would otherwise never have understood.[585]

Polanyi's use of the word 'doctrine' suggests the formation of theories or changes in theology exist in the manner Küng noted.[586] Yet there is also a type of truth by consensus which must be reached in order for a change to be accepted. Success is not only measured by creating

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[582] *Ibid.*, 2.
[583] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 75.
[584] Michael Polanyi, *Personal Knowledge*. (London: Routledge, 1962), 151.
[585] *Ibid.*, 150.
[586] Polanyi did not use doctrine to refer to Christianity.

new theories or through a new way of doing theology, but involves new teaching and propagation of ideas.

In some cases, Kuhn also suggested the solution to the crisis had been at least partly anticipated previously. The heliocentric model was first put forward by Aristarchus in the third century B.C.E. However, the more "reasonable" geocentric model had no need for even a competitor. This need arose centuries later, after the Ptolemaic model was shown to have anomalies that resulted in a crisis. As discrepancies were being discovered, the initial reaction was not to reject the model but to try to accommodate or modify these surprising results so that by the end, "there was no longer one Ptolemaic system, but a dozen or more, and the number was multiplying rapidly with the multiplication of technically proficient astronomers … [and] because there were so many variant systems, the adjective "Ptolemaic" had lost much of its meaning."[587]

In theology, Thomas of Aquinas' scholasticism borrowed heavily from Aristotle's ideas. Olson writes: "… the newly discovered philosophy of Aristotle was creating controversy there, and Aquinas quickly latched onto it and spent the rest of his life attempting to reconcile it with divine revelation."[588] Another interesting example is the *Joint Declaration on the Doctrine of Justification* by both the Lutheran and the Roman Catholic Church.[589] This common understanding led to an ecumenism similar to that alluded to by Jesus in Luke 9:50 and Mark 9:40, with the Scriptures potentially signalling a solution to the problem that had radically split the church around 500 years ago. The second section in the *Joint Declaration* states:

> By appropriating insights of recent biblical studies and drawing on modern investigations of the history of theology and dogma, the post-Vatican II ecumenical dialogue has led to a notable convergence concerning justification, with the result that this Joint Declaration is able to formulate a consensus on basic truths concerning the doctrine of justification.

The Reformation started because it was thought the Church had lost its way, much like the Ptolemaic system had. It could be argued the *Joint Declaration* came about because some of

[587] Thomas S. Kuhn, *The Copernican Revolution* (Cambridge: Harvard University Press, 1970), 138-139.
[588] Roger E. Olson, *The Story of Christian Theology.* (Leicester: Apollos, 1999), 333.
[589] *Joint Declaration On the Doctrine of Justification*, http://www.vatican.va/roman_curia/pontifical_councils/chrstuni/documents/rc_pc_chrstuni_doc_31101999_cath-luth-joint-declaration_en.html.

the differences between the Lutheran and Roman Catholic Churches had ceased to be as significant as they once were.

These crises are not limited to the last few centuries in the history of Christianity. As early as the fourth and fifth centuries after the death of Christ, the Church was split in two, leading to the formation of the Eastern Orthodox Church on the one hand, and the Roman Catholic Church on the other. Much of the responsibility for this schism lies with Augustine. Although revered by both sides, the East would maintain he led the Church astray. The disagreements focused mainly on issues of doctrine, more specifically, Augustine's soteriology.[590] He extolled the supremacy of God and did not allow the possibility of any single person being able to thwart God's will. One possible consequence is that God caused Adam and Eve to fall in the Garden of Eden. The question that Olson, who is Arminian, poses would be supposedly answered by Augustine in the following manner: "Would this make God evil or even the author of evil? Augustine would have none of it. He only stated that God permits evil and never attributed evil itself to God's causation."[591]

Also labelled as monergism, it affirms that the salvation of a person is not on the basis of human cooperation. This position is often contrasted with synergism which stresses a person must contribute to their salvation. Augustine also introduced a psychological aspect to the Trinity that resulted in another point of contention within Christianity. Augustine compared God's unity with the unity of a person, and God's threeness with three aspects of human personality, i.e. memory, understanding and will.[592] Thus, differences concerning salvation were not merely dictated by geography (Eastern and Western churches), but also by distinctly different interpretations on matters of doctrine. These differences, centred on the understanding of God, were not merely semantic; they were conceptual and because they were radically different, they could not be reconciled or accommodated within the other Church's theology. Similarly, soteriological differences on how God saves a human being also had wide ramifications. The condition of a person affects his or her ability to respond to the call by God and ultimately reveals the extent to which God will go in order to save a human being.

[590] Roger E. Olson, *The Story of Christian Theology*. (Leicester: Apollos, 1999), 253.
[591] *Ibid.*, 275.
[592] *Ibid.*, 276.

Nevertheless, although one way (and it is the one which Kuhn discussed the most) of resolving or conducting research through a crisis might be to adopt an entirely new paradigm and ditch the current one, there are at least two other alternative responses to crisis. The first is that normal science is able to resolve it. For instance, the *Joint Declaration* can be seen as a normal science puzzle-solving example and as having resolved the crisis present in the Reformation paradigm. The second is that research continues despite these counterexamples. The paradigm is rich enough that puzzle-solving can continue for other problems whilst leaving the current crisis on the side. A paradigm, no matter how faulty it is, will not be abandoned unless a replacement can be found. In other words,

> … though they may begin to lose faith and then to consider alternatives, they do not renounce the paradigm that has led them into crisis. They do not, that is, treat anomalies as counterinstances, though in the vocabulary of philosophy of science that is what they are.[593]

Kuhn remarked that what one considers counterinstances, others might merely take to mean puzzles. This indicates a subjective opinion on when a paradigm is deemed to be in crisis. It also alludes to the persuasion, or conversion-type, manner in which different members of the scientific community embrace a new paradigm. As an example, in Christian history, Lohse wrote that the Reformation: "… was in no way dependent for its success or failure on his person; rather, it became clear that the movement would continue without him as its leader or spokesman … we must recognize that it was from its very beginning a pluralistic movement."[594] There is no clear criterion on when a paradigm should be retained and when it should be dismissed. The assertions by Kuhn are in stark contrast to the way Popper viewed reality, and by implication, truth. For Popper, truth is objective and "… the idea of objective or absolute truth – that is truth as correspondence to the facts – appears to be accepted today with confidence by all who understand it."[595]

Popper believed that the reasons for not accepting truth are twofold:

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[593] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 77.
[594] Bernhard Lohse. *Martin Luther: An Introduction to His Life and Work*, Tr. by Robert C. Schultz. (Philadelphia: Fortress Press, 1986), 50.
[595] Karl Popper, *Conjectures and Refutations* (London, New York: Routledge, [1959] 2002), 304.

1. The combination of a simple idea with complexity in the execution of the technical programme to which it gives rise.

2. The mistaken belief that a satisfactory theory of truth should yield a criterion of true belief. Three theories give rise to this: the coherence theory of truth which mistakes consistency for truth; the evidence theory which mistakes 'known to be true' for true and the pragmatic or instrumentalist theory which mistakes usefulness for truth.

Polanyi noted that a logician imputes a belief on his or her part that the assertions are true, even in something as abstract as the use of symbols.[596] Furthermore, Kuhn notes that a person might bring all of his or her learning when conducting research. There exists a real and deep reluctance to abandon tradition and history for a new idea. Despite problems arising and anomalies appearing, the scientist will often seek to persist with what he or she knows, rather than solve the problem. Thus, extending this to theology, there is some agreement here with Newman who wrote regarding additions to existing doctrine: "… they are found just as where they might be expected, in the authoritative seats and homes of old tradition."[597]

Yarnell also discusses tradition in Christianity.[598] He notes the distinction between most evangelical Protestants and the Roman Catholic Church is about the role of tradition within the context of faith. Roman Catholics believe in tradition, but in the apostolic sense and with the Word of God being passed on and written in the Scriptures. Paul himself relied on other apostles regarding transmission or communication of Christ's deeds. However, Protestants are less likely to accept the existence of an official Church authority or magisterium as still existing today. In Luther's day, the battle was between reliance on the Scriptures alone versus the Scriptures and a Church hierarchy with the authority to interpret Scripture.

A conclusion from this is that a crisis is at least partially created by a challenge of the status quo. If a scientist believes an anomalous finding is merely a puzzle-solving exercise then no crisis exists; but to another scientist, such a result may attack the very centre of the paradigm

[596] Michael Polanyi, *Personal Knowledge.* (London: Routledge, 1962), 258.
[597] Newman, 93.
[598] Malcom B. Yarnell III, *The Formation of Christian Doctrine* (Nashville, TN: B & H Academic, 2007), 119.

and bring into doubt the entire set of assumptions or axioms of the paradigm. The nebulous nature of a crisis is discussed by Kuhn who noted:

> Even the existence of a crisis does not by itself transform a puzzle into a counterinstance. There is not such a sharp dividing line. Instead, by proliferating versions of the paradigm, a crisis loosens rules of normal puzzle-solving in ways that ultimately permit a new paradigm to emerge.[599]

The scientist is in a constant struggle between the *pressure* of needing to keep the tradition and paradigm that he or she has learned, versus the need to innovate in the face of what are scientific findings that contradict or do not match the paradigm. Kuhn wrote an entire book, *The Essential Tension*, discussing this issue. In speaking of a scientist's work, Kuhn pointed out:

> His claim to fame, if he has the talent and the good luck to gain one, may finally rest upon his ability to abandon this net of commitments in favor of another of his own invention. Very often the successful scientist must simultaneously display the characteristics of the traditionalist and of the iconoclast.[600]

The changing of a paradigm is so unusual that Kuhn described it as *revolutionary,* and this is now discussed.

5.6 Revolutions

Kuhn understood the word *revolutions* might prove controversial. He described parallels between progress in science and political revolutions. Here, Kuhn was trying to stress the importance of context, not merely rational thinking in the way science progresses. Politics as an analogy is even more apt in Christianity because these have often intersected in the past. A few of the revolutions, such as the rise of medieval Christianity or the Reformation, have been linked to upheavals in the political domain. The Age of Enlightenment led Christianity to retreat from areas where it might intersect with society, ethics and science. The Enlightenment reacted strongly against any influence from religion becoming too prominent outside of its domain. For religion, "beliefs are to be accepted only on the basis of reason, not on the authority of priests, sacred texts or tradition. Thus Enlightenment thinkers tended to support atheism, or at most to a

[599] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 80.
[600] Thomas S. Kuhn, *The Essential Tension.* (Chicago, London: The University of Chicago Press, 1977), 227.

purely natural or rational deism…"[601] One of the main reasons Kuhn describes the parallels between political and scientific revolutions is that in both, there is the presence of conflict and disagreement. He wrote: "At that point the society is divided into competing camps or parties, one seeking to defend the old institutional constellation, the others seeking to institute some new ones."[602] Using religious terminology, Kuhn asserted that those who hold to the new paradigm engage in attempts of "mass persuasion, often including force …"[603]

Kuhn argued that having to make a decision between remaining faithful to an old, versus converting and accepting a new paradigm, is essentially making a choice between two incompatible ways of community life, for which the modes for arguing for a particular position are circular. An apologetic application of this idea is provided by Greg Bahnsen. He stated that the difference between a Christian and an atheist/agnostic is not one of there being insufficient evidences, but rather it is a matter of the evidence being viewed through the lenses of a person's presuppositions. In an attack on the neutrality of evaluating evidence, he indicated "… the unavoidable fact is – regardless of how intense some apologists lament or decry it – that nobody is a disinterested observer, seeing and interpreting the facts without a set of assumptions and pre-established rules …"[604] Referencing Kuhn and affirming the non-objective character of science, Bahnsen provided a caveat for "facts" and their role. He wrote: "… facts are only facts for a system… " so that when a paradigm changes "… the world itself changes …"[605] In normal research, the entire enterprise is to accumulate more of these facts which fit into the pre-existing framework. For Kuhn, research does not consist of a scientist blindly going around looking for answers. The scientist already knows what he wants to achieve and solve, and uses his instruments and directs his attention accordingly.[606] This is the exact opposite of what happens when a paradigm change takes place through a revolution. It occurs because the scientist has gone beyond the rules within which he has or should have been operating. Similarly, Polanyi

[601] Definition of "Enlightenment" in Ted Honderich, ed., *The Oxford Companion to Philosophy.* (Oxford and New York: Oxford University Press, 1995).
[602] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 93.
[603] *Ibid.*, 94.
[604] Greg L. Bahnsen, *Presuppositional Apologetics*, Ed. Joel McDurmon .(Georgia, Texas: The American Vision and Covenant Media Press, 2008), 14.
[605] *Ibid.*, 89.
[606] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 96-7.

argued that genuine discoveries take place because at one point or another, someone has stepped outside the immediately recognised bounds of logic. Polanyi declared:

> It follows that true discovery is not a strictly logical performance, and accordingly, we may describe the obstacle to be overcome in solving a problem as a 'logical gap', and speak of the logical gap as the measure of the ingenuity required for solving the problem. It is the plunge by which we gain a foothold at another shore of reality. On such plunges the scientist has to stake bit by bit his entire professional life … the pioneer mind which reaches its own distinctive conclusions by crossing a logical gap deviates from the commonly accepted process of reasoning, to achieve surprising results.[607]

Polanyi further argued that to insist on conducting science without personal commitment is almost self-contradictory: "The reflecting person is then caught in an insoluble conflict between a demand for an impersonality which would discredit all commitment and an urge to make up his mind which drives him to recommit himself."[608] When a theologian must go against the status quo, the resoluteness in maintaining and calling for a revolution is paramount. The commitment of a proponent of a revolution requires a belief as stated by Polanyi: "For it is self-contradictory to secede from the commitment situation as regards the beliefs held within it, but to remain committed to the same beliefs in acknowledging their factual content."[609]

Beliefs are one's own and the desire to uncover a hidden truth to reveal something which no one else has seen are deeply personal, yet such discoveries are not confined to the interest of the discoverer; they are shared with others who would also be interested in the new knowledge. The initial impetus is thus always driven from the inside, but the results are of universal importance. Polanyi also saw a difference between the personal and the subjective. The personal requires a commitment and is needed to start a revolution. One is driven to think outside that which is established and to go against the grain, leading in order to precipitate a change. In accepting a belief and in contrast to subjectivity, a choice is made to tacitly believe as true, something lying externally to oneself. Thus, revolutions need both: a personal commitment on the part of the revolutionary, since the genesis of a paradigm change starts with a single idea (often with one or two people); and it also needs "converts" who will accept and progress the new paradigm. Commitment is necessary but this is done methodically for otherwise there would

[607] Michael Polanyi, *Personal Knowledge.* (London: Routledge, 1962), 122.
[608] *Ibid.,* 304.
[609] *Ibid.,* 304.

be deviation into flights of fancy. Yet this commitment is applied originally enough to make a discovery stand out from the norm.

Hence, in order to make new and great discoveries, a thinking 'outside the box', which is not obvious to most other members of the community, must take place. This could explain why initially at least, it might meet with resistance from others. It is a direct challenge to everything they have known to be true and trusted. The novelty shines a light in their learning and *modus operandi* and challenges their preconceived ideas. It makes the occurrence of revolutions all the more remarkable: if scientists and theologians are asked to be bold enough to "suspend their disbelief" and give a new idea time to compete with those much more established, then it is quite a feat when even one new idea should emerge and prevail, or at least coexist with others. But this tolerance and acceptance might not last for long. A revolution and its subsequent adoption of a paradigm might eventually impose its own set of rules and way of doing things.[610] In cosmology, the Big Bang theory has slowly but surely become the accepted model for the way the universe has begun, pushing out the Steady State theory, which sought to challenge it.

In Christianity, this has also been evident throughout history. When the Age of Enlightenment applied its doctrine of reason against miracles and dismissed the supernatural and anything devoid of rational thinking, this lead to the rise of Deism. Hefelbower, cited by Olson, defines deism as a way where "… nothing should be accepted as true by an intelligent being, such as man, unless it is grounded in the nature of things and is in harmony with right reason."[611]

Though the incompatibility of paradigms might not be appealing to scientists, they are in fact necessary and vital for scientific growth. Revolutions force the acquisition of new paradigms allowing for the formulation and solving of new problems, which would not have been possible otherwise. Advances in science, Kuhn observed, rely on the destructive nature of revolutions. If no single paradigm can answer all questions or problems posed, then establishing which questions are valid or which are given a higher priority, is determined by factors which go

[610] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 174.
[611] Roger E. Olson, *The Story of Christian Theology.* (Leicester: Apollos, 1999), 520.

beyond the objective.[612] Continuing with the example of the Age of Enlightenment, the focus in the immediate past was the Protestant movement. The Protestants' aim was to redefine issues like justification, salvation and ecclesiology from perceived Roman Catholic perversion. However, this change curtailed the political power of religious organisations and allowed for greater human freedom.[613] The pressing questions, which needed to be solved, had resulted in a revolution and the adoption of a new paradigm.

The effect of these revolutions is a complete and radical overhaul in the theology's worldview and a formulation of new doctrine. The data has not changed, but rather the scientist interprets it differently due to the incommensurable nature between the old and new paradigms. Dirk-Martin Grube notes that "… new paradigms take over much of the "vocabulary and apparatus" of the traditional paradigm. Yet they connect them in different fashion."[614]

In science, this new worldview does not look at the old and then incorporate the new. Instead, it seeks a complete dispensation of the old paradigm. Schilling discussed what appears to be an inconsistency regarding a scientist's work by writing:

> For one thing, they may assert that in science ideas are in a continual state of flux and replacement, and at the same time believe that "the scientific method" necessarily yields inerrant truth. For another, they may point with pride to the continual turnover of scientific knowledge, feeling that it indicates that in science ideas are not allowed to become fixed and fossilized "as they are in theology", and yet believe that only in science can one find solid, objective, and undeniable truth – which if it had these attributes should never need replacement.[615]

Again, the change, or part of science that may not be permanent, is often the interpretation of data rather than the data itself. As Kuhn remarked regarding the Copernican revolution:

> The convert to Copernicanism does not say, "I used to see a planet, but now I see a satellite". That locution would imply a sense in which the Ptolemaic system had

[612] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 109.
[613] Ole Peter Grell and Roy Porter, *Toleration in Enlightenment Europe*. (Cambridge: Cambridge University Press, 2000), 1-68.
[614] Dirk-Martin Grube, "Interpreting Kuhn's Incommensurability-Thesis: Its Different Meanings and Epistemological Consequences", *Philosophy Study,* **3,** no. 5 (2013): 377-97.
[615] Harold K. Schilling, *Science and Religion: An Interpretation of Two Communities*. (London: George Allen and Unwin, Ltd 1962), 89.

> once been correct. Instead, a convert to the new astronomy says, "I once took the moon to be (or saw the moon as) a planet, but I was mistaken."[616]

Kuhn explained this principle in a slightly paradoxical statement: "Though the world does not change with a change of paradigm, the scientist works in a different world."[617] The notion that a new paradigm can be accepted through strictly rational and objective means is dismissed by Kuhn. The adoption of a new paradigm requires some volition and "faith". Paradigms are unaffected by normal science,

> … and these are terminated not by deliberation and interpretation, but by a relatively sudden and unstructured event like a gestalt switch. Scientists then often speak of "the scales falling from their eyes" or the lightning flash that inundates a previously obscure puzzle, enabling its components to be seen in a new way that for the first time permits a solution.[618]

Polanyi also described this same phenomenon. He called it a scientific controversy with a tension between those who embrace the new and those who cling to the old. There is a persuasion which must take place so that before anybody is asked to engage their rational faculties and accept a new way of thinking, an appeal is made to the scientist. Polanyi did not believe the new is irrational or without due merit but he also did not affirm rationality alone is what makes someone sympathetic to a new framework. He wrote:

> Any such framework is relatively stable, for it can account for most of the evidence which it accepts as well established … Demonstration must be supplemented, therefore, by forms of persuasion which can induce a conversion.[619]

When a new scientific discovery takes place it does not appear on its own according to Polanyi. There is a new vision that accompanies it. A scientific discovery carries with it new knowledge, but the vision itself is not new knowledge; it is less than that. However, this new vision contains a certain predictive power. It entails the potential for new results that might even be inconceivable at the present time.[620] Polanyi listed three criteria for when such a new result is considered of scientific value. These are: certainty (or accuracy), systematic relevance (or profundity) and intrinsic interest. The last criterion may be carried out subtly. For instance, there

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[616] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 115.
[617] *Ibid.*, 121.
[618] *Ibid.*, 122.
[619] Michael Polanyi, *Personal Knowledge*. (London: Routledge, 1962), 151.
[620] *Ibid.*, 135.

are referees consulted by journals to determine not only the correctness of a result but also whether or not it is of interest.[621]

The doctrine of justification, which is one of the key doctrines to have emerged from the Protestant movement, can arguably be traced to Luther's "new" reading of Rom. 1:17. The effect imprinted upon him prompted by his personal crisis was sudden and in that moment, everything including his view of God, was radically changed. The term "revolution" is exactly what took place with the Protestant movement and it proved to be a battleground between the established order of the Roman Catholic Church and another way by which a person's relationship to God could be understood. Origen had also shared in some of the inner conflicts that Luther later had. He aimed to have an open and frank discussion about faith. Charles Kannengiesser noted that Origen, long before any Protestants came onto the scene, wanted to share his thoughts in a candid manner to both the educated and the uneducated.[622] He wanted a rational discussion of the Scriptures with the Jews including textual questions about the Septuagint. Origen sought to combine his mystical experiences with his teaching. Another aspect which Origen brought into Christianity is his embracement of modernity:

> He spoke to the church in his own voice, with a free speech framed by himself, alone, full of the richness of his biblical meditations, structured by the genuine intuitions of his philosophically educated mind … We encounter in Origen a theologian speaking in the church with the full strength of the culture of his age.[623]

Although some of the allegorical interpretations by Origen are dubious, his zeal and love for the Scriptures cannot be denied. He wanted to introduce the Church to a spiritual dimension of the Scriptures that were borne out of his piety and ascetic practices. For Origen, theory meets praxis and he became well-known and regarded for his teachings not only by believers but also secularists. The worldview Origen proposed was one where Christian mystical experiences could be appropriately explained.[624]

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[621] *Ibid.,* 136.
[622] Charles SJ Kannengiesser "Origen, Augustine and Paradigm Changes in Theology." In *Paradigm Change in Theology*, Ed. by Hans Küng and David Tracy. Tr. by Margaret Kohl, 113-29. New York: Crossroad, 1991.
[623] *Ibid.,* 122.
[624] *Ibid.,* 123.

Another feature of revolutions is that they are almost invisible. They are not immediately recognised and it is only when their authority is analysed that their true origins, along with their struggles, can be revealed. A description of their authority is found through textbooks according to Kuhn.[625] The data contained therein "… record the stable outcome of past revolutions and thus display the bases of the current normal scientific tradition."[626] The reason textbooks do not effectively account for revolutions is not because they are being disingenuous or misleading, but because they are seen through the rear-view mirror of the current body of scientific knowledge. Textbooks are constantly rewritten whenever the language or standards of normal science change. Each textbook revises the previous results in the vernacular of the current paradigm, thereby disguising the revolution that led to the discovery of those results in the first place.

In theology, or the social sciences for that matter, it is normally less contentious to argue for the existence of some relativism. Again, the reason revolutions might be nearly invisible in the natural sciences is because they tend to look backwards and apply a self-correcting view, therefore glossing over the human or non-rational components that have shaped them. Kuhn alluded to some differences existing between the natural and social sciences when he wrote:

> In the natural sciences the practice of research does occasionally produce new paradigms, new ways of understanding nature, of reading texts. But the people responsible for them were not looking for them … Contrast that pattern with the one normal to … social sciences. In the latter, new and deeper interpretations are the recognized object of the game.[627]

However, the contextual approach to explain science by Kuhn, suggests that perhaps the gap between it and Christian theology, which involves interpretation of the world, and our place and relation to it in light of the existence of a sovereign God, might not be as great as thought. Clayton noted, "instead of analyzing the formal structure of explanations, he [Kuhn] insists that we address their pragmatic setting and communal function."[628] Hence, if Kuhnian revolutions tackle pragmatic settings and communal functions in the natural sciences then the examination of Christian doctrines and the way they are communicated to the Church should also be examined.

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[625] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 136.
[626] *Ibid.*,136.
[627] Thomas S. Kuhn, *The Road Since Structure*. (Chicago, London: The University of Chicago Press, 2000), 222.
[628] Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion* (New Haven, London: Yale University Press, 1989), 42.

A paradigm has an underlying process or system through which it progresses, so it is often the case that a revolution is eventually resolved. Kuhn reiterated that switching paradigms takes place through persuasion (and not merely through logic) by using religious language. Kuhn wrote:

> The man who embraces a new paradigm at an early stage must often do so in defiance of the evidence provided by problem-solving. He must, that is, have faith that the new paradigm with many large problems that confront it, knowing only that the older paradigm has failed with a few. A decision of that kind can only be made on faith.[629]

Kuhn stated that the reason for changing paradigms was based on looking into the future rather than successes of the past. This faith is based on the promise that the new paradigm will have greater problem-solving ability than the old paradigm.[630] Despite this, Kuhn has often been attacked for embracing relativism. He explicitly aimed to refute this by providing five criteria for when paradigms might be deemed to be succeeding and growing.[631] These appear in Kuhn's chapter titled *Objectivity, Value Judgment and Theory Choice*.[632] The first is accuracy; the results from experiments should be demonstrated to match the theory. The second is that it should be consistent, not only with itself but with other related theories. Recalling Duhem-Quine's work, no theory is on its own as it relies on other theories as axioms or tenets as starting points. Also resembling Schilling's description of religion as three-fold and circular, Kuhn made the point that there is interdependence on the part of theology to the religious life and its explanation of the experiences of the relevant religious community. None of these spheres exists in isolation, but instead influence each other.[633] The third point is that a new theory should be broad in scope. It should have further implications and consequences than a single puzzle or problem. The fourth essentially invokes Occam's razor in that it should be simple. A successful paradigm brings order to phenomena that would otherwise be isolated or anomalous. The fifth criterion implies that a new theory should be fruitful. Through its use, more results are obtained and new relationships

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[629] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 156-57.
[630] *Ibid.*, 157.
[631] This is besides the fact that a new paradigm must not only accommodate the results of the old paradigm but also the anomalies that the latter could not resolve.
[632] Thomas S. Kuhn, "Objectivity, Value Judgment and Theory Choice," in *The Essential Tension* (Chicago, London: The University of Chicago Press, 1977), 320-39.
[633] Harold K. Schilling, *Science and Religion: An Interpretation of Two Communities*. (London: George Allen and Unwin, Ltd 1962), 75.

discovered. However, Kuhn noted these criteria can be vague and may be used in varying degrees and in different ways according to the scientist. Another problem encountered is that they may contradict each other in some manner.

These different aspects can also be easily observed in Christian doctrine. One of the key principles in Reformed theology is the notion of Sola Scriptura. This refers to the doctrine that the Bible teaches all things required for salvation and holiness. Even with the aim of being as faithful, and therefore as accurate, with the reading of the Bible, different denominations disagree on whether for instance, infants are allowed to be baptised or not. One denomination would state their reading is more accurate than another based on particular passages and vice versa. Although the criterion is the same, their application renders a different outcome among different sets of followers. Kuhn observed "… when deployed together, they [criteria] repeatedly prove to conflict with one another; accuracy, may for example, dictate the choice of one theory, scope the choice of its competitor …"[634]

5.7 Final Remarks on Kuhn's Ideas and Their Applications to the Problem of the Development of Christian Doctrine

In the end, the success and progress of a paradigm is dependent on the consensus of the community. The community ensures the list of problems and their inherent particular solutions keep growing. The same applies to Christianity: its exposition and development will be contingent on a vibrant Christian community to reflect and then either create, extend or correct existing doctrine. Schilling remarked that science and religion are both social enterprises. In religion, even though there might be doctrinal disagreement, there is also a "… remarkable degree of understanding and communality among its members."[635] There are also goal-oriented tasks that bind such a community so that notwithstanding the criteria noted earlier, Kuhn rhetorically asked

> Can we not account for both science's existence and success in terms of evolution from the community's state of knowledge at any given time? Does it really help to

[634] Thomas S. Kuhn, "Objectivity, Value Judgment and Theory Choice," in *The Essential Tension*. (Chicago, London: The University of Chicago Press, 1977), 322.
[635] Harold K. Schilling, *Science and Religion: An Interpretation of Two Communities*. (London: George Allen and Unwin, Ltd 1962), 57.

> imagine that there is some one full, objective, true account of nature and that the proper measure of scientific achievement is the extent to which it brings us closer to that goal?[636]

For Christianity, although there is one true God and it is also an objective fact that God's Son, Jesus Christ came into the world to save humanity, the doctrine and teachings of the Church are done so by people whose views were shaped by their upbringing, culture, learning and society. Applying Kuhn's ideas on the progress of science is then apt to help describe the problem of how Christian doctrines were founded. To demonstrate the non-Christian factors and their influence in the development of Christian doctrine in an obvious manner, the next chapter provides an account of three pivotal Christian doctrines or church teachings and the factors that have influenced their formation.

[636] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 170.

CHAPTER 6

Understanding the Context of Key Christian Doctrines in the Light of Kuhn's Paradigm

In this chapter, the contexts in which three key doctrines originated and developed are highlighted, in conjunction with insights from Thomas Kuhn. The doctrines analysed are: the doctrine of original sin, the doctrine of justification and the doctrine of the Trinity. Extensive treatises could be written on each of these doctrines alone. However, the aim is to show that Kuhn's ideas are not merely restricted to a single doctrine.[637]

6.1 The Doctrine of Original Sin

Tatha Wiley notes the doctrine of original sin grew incrementally during the first four centuries of the Church.[638] The early patristic tradition was based upon the reflections of theologians, with bishops close to that era pointing out that the idea of original sin is a post-New Testament development.

Writings denoting and describing original sin can be found in the works of the early Patristic Fathers such as Irenaeus, Cyprian, Hilary, Gregory of Nazianzus, Basil, John Chrysostom and Ambrose. The West, however, would draw much of its views on original sin from Augustine. He drew two distinctions within the concept of original sin by calling upon the work of the early Church Fathers: *peccatum originans* (the event of original sin) and *peccatum originatum* (the condition of original sin). Discussing *peccatum originans,* Augustine noted that Adam's first sin created a hostile disposition towards God that led to death.[639]

The first four centuries can be seen as pre-paradigmatic in Kuhnian terms because the views of original sin were still being loosely formed and expounded upon. Later, the work of Augustine in this regard, would come to be considered as revolutionary. This is where the doctrine was clearly defined and thus set up a paradigm. Wiley writes:

[637] These particular doctrines were chosen because they are crucial to orthodox Christianity.
[638] Tatha Wiley, *Original Sin.* (New Jersey: Paulist Press, 2002).
[639] *Ibid.,* 58.

> The theology of original sin developed incrementally in the patristic writings. The idea of original sin was a response to a broad range of questions – the relation of God to evil, human nature, the reason for divine redemption, the necessity for Christ, the practice of infant baptism, and the role of the church in God's plan of salvation. Appeals to a first sin, to Adam's sin, to an original corruption, to an inclination to sin, or to a fall were ways of answering these questions.[640]

The first writings on original sin were a response to questions. Their incremental nature indicates what Kuhn would have labelled as normal science.[641] These writings did not appear out of nowhere; and they were based on queries which led theologians to look for answers. Wiley notes that the writers' concerns were soteriological in nature.[642] The notion of the doctrine of original sin as a paradigm takes on an even more significant meaning because views thereof influenced certain practices within the Church. It affected views on the nature and origin of the human soul, baptism and whether humans have free will or not.

Although it was Augustine who first wrote extensively on the doctrine of original sin, he was influenced by the patristic writings, his own inner struggles and personal experiences. Augustine was promiscuous as a young man and it was through grace that he was set free from the bondage of his carnal appetites. He found sex and drunkenness could not satisfy the soul and he became increasingly anxious.[643] In agony, he heard a child's voice commanding him to "take it and read" when subsequently his eyes landed on Romans 13:13-14. He then gave his life to Christ and found rest.[644] Augustine's doctrine of original sin did not go unchallenged, and heated debates with Pelagius ensued. This struggle suggested the presence of another pre-paradigmatic stage.[645]

Pelagius was born c.350 in Britain. He knew the classics and was also well grounded in the Scriptures. However, Pelagius was a moralist rather than a theologian. The conflict primarily originated from differing views on human moral nature. Whereas Pelagius maintained moral

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[640] *Ibid.*, 38.
[641] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 36.
[642] Tatha Wiley, *Original Sin.* (New Jersey: Paulist Press, 2002), 54.
[643] Bryan M. Litfin, "Augustine," in *Getting to Know the Church Fathers.* (Grand Rapids: Brazos Press, 2007), 213-37
[644] Saint Augustine, *Confessions*, Tr. by R. S. Pine-Coffin. (Penguin Books: 1961), 177-8. Augustine originally wrote this between 397 and 400 A.D.
[645] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), xxv.

nature was God's gift and humans know the difference between doing good and evil, Augustine believed Adam's sin wounded nature and made humans biased towards doing evil. Humans have free will, but only in bondage to sin.[646] Ferguson lists numerous reasons why Pelagius and Celestius' (an assistant of Pelagius) teachings were refuted.[647]

1. The first is that Pelagius and Celestius
2. taught that Adam and Even only injured themselves. Even if there is an original sin, this did not transmit itself to the rest of mankind. They also maintained the whole race does not die because of the sin of Adam and Eve, and conversely, the race does not rise because of the resurrection of Christ.
3. A newborn infant is in the same state as Adam before the Fall. For Celestius and Pelagius, infant baptism was for committed sin, not for transmitted sin.
4. Adam was made mortal and would have died regardless of whether he had sinned or not.
5. Both the law and the gospel lead to the kingdom of Heaven.
6. There were people who lived without sin before the coming of Jesus Christ.

Pelagius' overall conclusion is that a person can theoretically live a perfectly moral and sinless life by observing all the commands of God. Pelikan described the conflict between Pelagius and Augustine in the following manner: "In Pelagianism Augustine was confronted by a theology which seemed to give man the capacity of self-determination by asserting the possibility of achieving sinless perfection in this life without grace."[648] In rejecting Augustine's

[646]Tatha Wiley, *Original Sin* (New Jersey: Paulist Press, 2002), 69.
[647] Everett Ferguson, *Church History, vol. 1, From Christ to Pre-Reformation.* (Grand Rapids: Zondervan, 2005), 280.
[648] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 1, The Emergence of the Catholic Tradition (100-600).* (Chicago, London: The University of Chicago Press, 1971), 313.

views, "Pelagius desired to combat any tendency within the Christian community to excuse their sinful actions because of a defect in human nature itself."[649]

Such views also had an impact with respect to the way the origin of the soul was viewed and whether God infused each soul at the time of conception (also known as creationism), or whether the body and soul are generated at physical conception (traducianism). The manner one understood original sin had wider ramifications than simply the doctrine itself: it would also say something about what infant baptism meant, what redemption represents and what is meant by "forgiveness" of sin. The disagreements between Augustine and Pelagius are put by Wiley in the following manner:

> Pelagius, a British monk and theologian, is believed to have read Augustine's Confessions around 405. Augustine's later anti-Pelagian writings also appear to date their conflict to this date. But Augustine's silence about Pelagius until 415 C.E. suggests this later date as the beginning of their antagonistic relationship. Their friction continued until Pelagius' death in 420.[650]

The length of this protracted conflict was probably unforeseen. As Kuhn had indicated for the natural sciences, "the profession will have solved problems that its members could scarcely have imagined."[651] These views caused enough concern that in the Council of Carthage in 418, action was taken against Celestius. This resulted in the denouncement of the Pelagian doctrine of original sin and the approval of the views of Augustine. For at least two years previously, there was some turmoil within the Church as to what to do with Pelagius' views. Also in Carthage, a council was convened in 416, where Pelagius' views were rejected. But Pelagius was reinstated in 417, after writing *Book of Faith* (*Libellus fidei*). Finally in 418, Pelagius' teachings were condemned with nine of his canons being denounced.[652] There were three on grace, three on general statements on sin, and three on original sin. For original sin, it was anathema to say death was not the result of Adam's sin, anathema to say a newborn child is not condemned to eternal punishment for what was acquired from Adam and finally anathema for those wishing to make a distinction between the kingdom of God and heaven (this centred on

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[649] Christopher A. Hall, *Learning Theology with the Church Fathers.* (Downers Grove: InterVarsity Press, 2002), 134.
[650] Tatha Wiley, *Original Sin.* (New Jersey: Paulist Press, 2002), 61.
[651] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 25.
[652] Tatha Wiley, *Original Sin* (New Jersey: Paulist Press, 2002), 281.

John 3:5 and on the necessity for infant baptism for newborn children to receive eternal life). However, Julian, another disciple of Pelagius, took over from Celestius. Pelagius' supporters were emboldened because not all the bishops had excommunicated Pelagius and Celestius after 418.[653] However, the Council of Ephesus (431) confirmed the original repudiations. This did not mean that Augustine's views were automatically accepted, with Augustine himself being accused of semi-Pelagianism.[654] But, in 529, the Council of Orange reaffirmed these condemnations and sided with Augustine's views.

Anselm and Aquinas further elaborated on Augustine's ideas. Analogous to normal science, Anselm wanted to provide answers regarding the purpose of incarnation and redemption.[655] He was influenced by medieval theology and its ideas of honour and obedience. He read Genesis 3 within this context and unlike Augustine, believed Adam had insulted God and a repayment must be given to him for the dishonour. Hence Anselm promoted the idea of justice in that only God, in the form of Jesus Christ, could satisfy that debt. He sought to synthesise the work of Augustine. These views were eventually embraced by the Roman Catholic Church and officially affirmed in the Council of Trent (1545-63).[656] This was seen as a move against the Reformers, and none more so than against Martin Luther. Medieval theology did believe that although Christ's atoning work took away the eternal punishment of sin, "it was necessary for the sinner to provide some sort of penance to remove the temporal effects of sin."[657] Wiley notes that: "Luther's understanding of original sin broke from the dominant scholastic paradigm of his day."[658] Luther attempted to define original sin more in line with Augustine, and in more personal terms than what Anselm and Aquinas had proposed. Pelikan writes that Luther believed "man in his fallen state could not know himself accurately … nor could he adequately understand the demands of divine justice, much less satisfy them."[659] In

[653] *Ibid.,* 281.
[654] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 1, The Emergence of the Catholic Tradition (100-600).* (Chicago, London: The University of Chicago Press, 1971), 318.
[655] Tatha Wiley, *Original Sin* (New Jersey: Paulist Press, 2002), 78.
[656] Jaroslav Pelikan, *The Christian Tradition: A History of the Development of Doctrine, vol. 4. Reformation of Church and Dogma (1300-1700)* . (Chicago, London: The University of Chicago Press, 1984), 282.
[657] John D. Woodbridge and Frank A. James III. *Church History, vol. 2, From Pre-Reformation to the Present Day.* (Grand Rapids: Zondervan, 2013), 113.
[658] Tatha Wiley, *Original Sin* (New Jersey: Paulist Press, 2002), 89.
[659] Jaroslav Pelikan, *The Christian Tradition: A History of the Development of Doctrine, vol. 4. Reformation of Church and Dogma (1300-1700)* . (Chicago, London: The University of Chicago Press, 1984), 133.

other words, a person in a fallen state is utterly unable to appease God on their own. The Council of Trent emphasised the need for ecclesial mediation of grace. Luther maintained that only God considers someone just.[660] Luther was so strongly against the notion of free will that this led him to write *The Bondage of the Will* (1525), in opposition to Erasmus, strongly rejecting Aristotelianism and Scholasticism.[661]

Some division still remains within the Protestant and Catholic definitions: Luther had maintained that original sin continues in the regenerate, while the Council of Trent repudiated this thereby maintaining a link between the doctrine of original sin and justification.[662] However, since the *Joint Declaration* signed between the Lutheran and Roman Catholic Churches, this is perhaps not as great as before. Further, these two interpretations of original sin are not the only ones present. Original sin is now viewed as that which is currently happening in human existence, while early Christians saw Adam's sin as history. All sin that exists nowadays is a consequence of Adam and Eve's disobedience. Hence, an indirect link can be made between the different views of original sin and modern theories on the nature of sin.[663] Currently, different views taking into account personal and historical factors have been presented. Wiley points out:

> Contemporary theologians start with the view that religious practices, beliefs, doctrines, and texts are shaped by and reflect particular historical settings. In contrast to a static conception of religion, contemporary theologians think of religion dynamically, as a process of religious experience, conversion, questions, conflict, and development.[664]

Two very recent interpretations on the nature of sin can be found in feminist theology and in Reinhold Niebuhr's writings. Feminist theologians describe that other theologians have historically used the Fall as a means to subjugate women because it was seen that Eve caused Adam to sin. Ruether, quoted by Wiley, declared that subordination of women by male-centred

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[660] *Ibid.,* 89.
[661] John D. Woodbridge and Frank A. James III.,*Church History, vol. 2, From Pre-Reformation to the Present Day.* (Grand Rapids: Zondervan, 2013), 116.
[662] Jaroslav Pelikan, *The Christian Tradition: A History of the Development of Doctrine, vol. 4. Reformation of Church and Dogma (1300-1700).* (Chicago, London: The University of Chicago Press, 1984), 279.
[663] Admittedly, this might be a link which not everyone might agree with. However, for the sake of currency, it is nevertheless worth mentioning some of the current views of sin. It can be argued that history readily described all sin in relation to the Fall. If this is the case, then the justification for this link becomes even stronger.
[664] *Ibid.,* 128.

theology is itself a sin.[665] Walter Rauschenbusch and Niebuhr believed sin is closely linked to the collective behaviour of society.[666] Rauschenbusch stated sin is a social force, while Niebuhr maintained that people tend to be selfish or ego-driven. In addition to reason, moral choice and decision, humanity's other source of goodness is having regard for others. Thus, the causes of sin are self-regarding tendencies such as egotism, self-centredness and selfishness.

Hans Schwarz succinctly summarises recent views on sin.[667] Karl Barth viewed sin as the enigmatic shape of nothingness. This nothingness is not meant to be taken as being "nothing". Rather, it is that "from which God separates himself and in the face of which He asserts Himself and exerts His positive will."[668] Paul Tillich described sin as estrangement (or disbelief) and self-destruction,[669] while Pannenberg believed sin is rooted in self-centredness.[670] Theologies of sin, based on sinful social structures, are found in liberation theology, and naturally shares some analogies with the feminist theology listed above. Lastly, process theology has, at its core, the idea that God's power is persuasive, not controlling.[671]

The doctrine of original sin displays many of the characteristics of a Kuhnian revolution: a pre-paradigmatic stage, the establishment of an actual paradigm (and its implications for other theories), a challenge to the paradigm because of a perceived anomaly, normal science in the form of continued development within that paradigm, a further challenge when it is believed the paradigm had strayed or a crisis has ensued, and then more normal science within the paradigm of the doctrine of original sin.

[665] Tatha Wiley, *Original Sin* (New Jersey: Paulist Press, 2002), 158.
[666] Hans Schwarz, *Evil: A Historical and Theological Perspective*. Tr. by Mark Worthing. (MI: Augsburg Press, 1995), 155-60.
[667] *Ibid.*, 165.
[668] *Ibid.*, 165.
[669] *Ibid.*, 170.
[670] *Ibid.*, 172.
[671] *Ibid.*, 182.

6.2 The Doctrine of the Trinity

The doctrine of the Trinity is also a doctrine that has seen conflict, heresy and debate since its origin. The focus of the doctrine is essentially about a relationship.[672] Catherine LaCugna states "the doctrine of the Trinity originated as an explanation of how God's relationship to us in the economy of salvation reveals and is grounded in the eternal being of God."[673] Economy of salvation is a term used to describe God's plan or management of his "household" and defines God's plan of salvation for those who believe. There are two key terms to be considered in the development of this doctrine: *oikonomia* and *theologia*. The former describes this economy and the latter is about the eternal nature of God. Disputes concerning the Trinity centre on how these terms are to be understood in relation to Christ, God the Father and the Holy Spirit.

The doctrine of the Trinity arose mainly as a reaction to Arius and his theology which maintained that "the biblical account of the economy of redemption reveals that Jesus Christ is a lesser God; the one who is sent is less than the one who sends."[674] In order to understand the Trinity, it is also imperative to understand the catalyst that gave rise to a crisis which precipitated the need to formulate this doctrine in the first place.

Arius challenged Bishop Alexander's teaching that the Father and Son are both eternal. Arius and his supporters cited numerous examples to back up their views that the Son was subordinate not only in economy (*oikonomia*), but also in *theologia*.[675] The subordination of Christ to the Father was a misunderstood concept since there was no clear position on the relation of Jesus to the Father. LaCugna notes there were several subtle variants of Arianism: "the fourth century comprised the search for an "orthodox" doctrine of God. This is especially

[672] Although this section is titled the doctrine of the Trinity, it mainly concerns with the beginnings that led to its eventual formation: declaring the equality of Jesus with God the Father. As such, Basil's doxologies which greatly helped in establishing the co-equality of the Holy Spirit to Jesus and God the Father in *theologia* are not addressed here.
[673] Catherine Mowry LaCugna, *God for Us: The Trinity & Christian* Life. (New York: HarperCollins, 1973), 8.
[674] *Ibid.,* 8.
[675] *Ibid.,* 32.

important to keep in mind when discussing the doctrine of the Trinity, since the temptation is to read authors in antiquity in light of a later doctrine."[676]

Bishop Alexander obtained a condemnation against Arius' teaching at a synod of Alexandria (c.317). Letters were sent to other bishops concerning the exclusion of Arius from fellowship. Arius appealed to his friends, including Eusebius, bishop of Nicomedia. The dispute went back and forth until a Synod was convened in Antioch in early 325. The Christology of Eusebius was condemned and Eustathius, a strong opponent of Arius, became bishop of Antioch. As another synod was getting ready to hear the recantation of Eusebius, Constantine saw this as an opportunity to cement his position as emperor and unite his empire. Under the pretence of having a celebration for the 20th year since his acclamation as emperor, he invited around 250 bishops. This became known as the Council of Nicaea (325).[677] According to Ferguson, there are three aspects worth highlighting from that Council.[678] Firstly, Nicaea was the first universal council; such assemblies were seen as the way to deal with dogmatic problems affecting the church. In these meetings, a matter was determined a heresy or orthodox through a vote. This has parallels with Kuhn's notion that it is a scientific community which governs paradigm change. Kuhn noted that "a paradigm governs, in the first instance, not a subject matter but rather a group of practitioners. Any study of paradigm-directed or paradigm-shattering research must begin by locating the responsible group or groups."[679] This means that although a paradigm can be first proposed by a single person, like Copernicus and the heliocentric system, which is Kuhn's prime example in illustrating his theory, its success must also include a critical mass of practitioners who embrace it and are willing to engage in puzzle-solving. The second important aspect of Nicaea is that it set up a paradigm in itself in allowing the involvement of the emperor Constantine. Thirdly, Nicaea also made creeds something more than confessions of faith; they became formulations of councils. The bishops of the Council refuted Arius by teaching that

[676] *Ibid.*, 32.
[677] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 1, The Emergence of the Catholic Tradition (100-600) (*Chicago and London: The University of Chicago Press, 1971), 200.
[678] Everett Ferguson, *Church History, vol. 1, From Christ to Pre-Reformation* (Grand Rapids, MI: Zondervan, 2005), 196-7.
[679] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 179.

"Jesus Christ was not created but begotten of the substance of the Father (*ousia*), *homoousios* (of the same substance) with the Father."[680]

This should have seen the end of Arianism, but the Council, through the use of the word *homoousios,* appeared to create a bigger problem than the one it solved. The objections to the word were several.[681] These are: 1) it was not used in the Scriptures; 2) it had been used by Gnostics; 3) it had been used by Paul of Samosata, a well-known heretic; and 4) it sounded Sabellian (this is the teaching by Sabellius circa 200, that stated that the Father, Son and Holy Spirit were three modes or manifestations of one God. Also known as modalism, it viewed one God as manifesting himself in three modes of existence).[682] Although it seemed a paradigm had been determined, the result was a development of "many speculative and unarticulated theories that can themselves point the way to discovery."[683]

This suggests that at the Council of Nicaea, the doctrine of the Trinity was still at the pre-paradigmatic stage and riddled with anomalies (not least because of loose terminology), and was in the midst of a crisis due to conflicting views among theologians in the fourth century. Athanasius subsequently took it upon himself to continue to oppose related heresies to the Trinity. Litfin writes:

> The ancient Christians portrayed him as a solitary resistance fighter standing firm while the waters of heresy raged against him … It's probably not an exaggeration to say that if it were not for his efforts, a heretical view of the Trinity known as Arianism would have won the day … For several decades Athanasius was a lonely defender of the orthodox view of the Trinity against the Arian view.[684]

The problem for Athanasius was great: it was a time when money could buy power and the tide of public opinion was slowly favouring Arianism. Remarkably, what Athanasius was proposing was what Origen had suggested earlier.[685] 'It was similar to the heliocentric model of Copernicus which was proposed centuries earlier by Aristarchus of Samos. Before Ptolemy's

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[680] Catherine Mowry LaCugna, *God for Us: The Trinity & Christian Life* (New York: HarperCollins, 1973), 36.
[681] Everett Ferguson, *Church History, vol. 1, From Christ to Pre-Reformation* (Grand Rapids, MI: Zondervan, 2005), 200.
[682] Paul Enns, *The Moody Handbook of Theology*, rev. ed. (Chicago, Illinois: Moody Publishers, 2008), "The Trinity of God."
[683] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 61.
[684] Bryan M. Litfin, "Augustine," in *Getting to Know the Church Fathers* (Grand Rapids: Brazos Press, 2007), 167.
[685] *Ibid.,* 175-6.

geocentric view of the universe, Aristarchus had suggested that the Earth rotated around the sun and not the other way around. It was only much later that Copernicus revisited that model, going against the prevailing paradigm.[686] Much like Copernicus and Ptolemy, Athanasius' paradigm was incommensurable with Arius' and he encountered great difficulties in overturning the status quo. Olson notes there were three arguments which Athanasius used to support his views. The first is metaphysical: if the Father was God, then the Son must be God also, otherwise the nature of the Father must have changed. The second argument was soteriological: if the Son of God is not truly God, then salvation as re-creation is impossible. Finally, the third argument is revelational: in order for Jesus Christ to be a true revelation of God and not merely another image or prophet, he had to be God. In short,

> if the Son of God who became Jesus Christ is not truly God as the Father is God, we humans are not being saved by him and our connection with him, and he does not truly reveal the Father to us. Furthermore, the Father has undergone change in begetting a Son, which is improper to the divine nature.[687]

Athanasius' views of the Trinity could not be reconciled with that of Arius, whose implications would have tainted the divinity of Christ. Athanasius' thoughts were revolutionary because he was affirming the equality of the Son to the Father, but avoiding the Sabellian error of merely stating they were only various manifestations of the same God. Athanasius stressed the divinity of Christ without compromising Christ's humanity. This was incommensurable with Arianism and Sabellianism. In a Kuhnian sense, Athanasius had pointed out enough anomalies within the Arian position so that it finally fell out of favour. Note that before Athanasius, there was a pre-paradigmatic stage evidenced by there being four types of positions regarding the relationship between the Father and the Son:[688]

1. Homoousians – the Son is of the same substance with the Father.
2. Homoiousians – the Son is of similar substance to the Father.
3. Homoeans – the Son is like the Father.
4. Anomoeans – the Son is unlike the Father.

[686] Thomas S. Kuhn, *The Copernican Revolution* (Cambridge (MA): Harvard University Press, 1970), 274-8.
[687] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 168-71.
[688] Everett Ferguson, *Church History, vol. 1, From Christ to Pre-Reformation* (Grand Rapids: Zondervan, 2005), 201-2.

The Anomoeans were thought to be an extreme variant of Arianism, who according to Basil, believed that the Son was brought into being by God alone.[689] And, a local Synod at Ancyra in 358 deemed the second and third positions to be essentially the same.[690] This is evidence of what Kuhn described as disciplinary matrices between the Homoousians and Homoiousians. The Synod, despite some minor differences, believed that these two groups essentially shared the same paradigm (or looked like they shared the same paradigm). Kuhn described this situation as occurring when "the application of values is considerably affected by the features of individual personality and biography that differentiate the members of the group."[691]

The work of Athanasius went on to be advanced by the Cappadocian fathers. Analogous to "normal science", they were working with the paradigm established by Athanasius. They again stressed the Son was subordinate to the Father from the standpoint of economy, but not in theology (or ontology). The debate then shifted from Athanasius versus Arius, to the Cappadocians versus Eunomius (an Anomoean bishop later deposed). What now needed to be determined was the difference between "begotten" and "being made." The Cappadocians needed to explain that the Son being begotten does not mean he was made. Ironically, Hanson noted that in some ways, the use of *Logos* led to interpretations which slid into Arianism. Beginning with Origen, and continuing with Eusebius, this term led to thinking of Christ as some kind of second-grade God who had to mediate between the supreme Father and the world. The Cappadocian fathers sought to stress the inability to perfectly understand this relationship through the use of Greek philosophy.[692] Hanson remarked on this imprecision when he wrote: "They were convinced that the full divinity of the three Persons must be defended while preserving the unity of the Godhead, and they knew no other language in which to defend it."[693] Gregory had the last word on the matter: if the Father was forever, then so was the Son; without the Son, the Father

[689] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 1, The Emergence of the Catholic Tradition (100-600).* (Chicago, London: The University of Chicago Press, 1971), 196.
[690]Everett Ferguson, *Church History, vol. 1, From Christ to Pre-Reformation* (Grand Rapids: Zondervan, 2005), 201.
[691] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 185.
[692] R. P. C. Hanson, *The Continuity of Christian Doctrine* (New York: Seabury Press, 1981), 57, 60.
[693] *Ibid.*, 60.

does not exist. Father is in relation to the Son. Moreover, since the Son is in the Father, the Son is always in essence what the Father is.[694] Gregory had sealed the fate of Arianism.

6.3 The Doctrine of Justification

This doctrine was central to the Protestant movement and the Reformation. Arguably, the doctrine of justification is to revolutions in doctrinal development, what Copernicus' work is to progress of science. Augustine, a frontrunner to Martin Luther, also had quite a bit to say in this matter.[695] Augustine changed paradigms after maintaining the view that a person had unrestricted freedom to free will. Referring to Augustine's *Ad Simplicianum*, McGrath writes: "… while conceding that the human free will is capable of many things, Augustine now insists that it is compromised by sin and incapable of leading to justification unless it is first liberated by grace."[696]

Free will and its status after the Fall is paramount to an understanding of justification. Augustine did not deny a dialectic existing between the concepts of human free will being incapacitated, and an individual being responsible for sin and rebellion against God. Ultimately, the tension is between grace and free will (or agency) and Augustine realised that in developing this doctrine he had to affirm both. Augustine declared the remedy lies in allowing a spiritually sick and incapacitated person to enable to choose God is faith. This enables the will to be 'cured' and function properly, whereas before it rejected all possible 'remedies'. In addition, Augustine noted two functions of grace: the operative and the co-operative. The operative enables the restoration of the human will to full health, and the co-operative function states that once this will is healed, a human being chooses the grace, that God has bestowed, to do the works that God has set. McGrath describes this in the following manner:

> The justification of humanity is therefore an act of divine mercy, in that they neither desire it … nor deserve it. On account of the Fall, the free will of humans is weakened and incapacitated, though not destroyed. Thus humans do not wish to be justified … however once restored to its former capacities by healing grace, it

[694] Catherine Mowry LaCugna, *God for Us: The Trinity & Christian Life* (New York: HarperCollins, 1973), 60-2.
[695] Alister E. McGrath, *Iustitia Dei*, 3rd ed. (Cambridge: Cambridge University Press, 2005). This is a thorough book which deals with this doctrine.
[696] *Ibid.,* 40.

> recognized the goodness of what it has been given. God thus cures humanity's illness, of which the chief symptom is the absence of any desire to be cured.[697]

In establishing a framework for justification, Augustine is aware that any view he expresses will have a trickled down effect on free will, grace and faith. The position of God being solely responsible for justification permeates to other aspects of Christian belief so that, similar to what Kuhn remarked for the natural sciences, they share "a constellation of group commitments."[698] In this statement by McGrath, justification cannot be expressed without the mention of grace, mercy and free will. Merit is another term Augustine uses in connection to justification and good works as it is seen to be exclusively God's work rather than a human achievement. Good works are only truly possible after justification (not before) and even then, any merit is a gift of God.[699] The result is that one cannot talk about justification without talking about the effects of original sin upon a person, and their subsequent ability or lack thereof to embrace Christ. Of course, Augustine was in a fierce debate with Arius and the notion of whether a human being is able on his own to accept Christ. Another tenet of justification is the righteousness of God. This does not refer to the righteousness inherent in God himself, but rather that by which sinners are justified. Notwithstanding this, Augustine was more concerned with the way God justifies than how God is able to justify.

If Augustine laid the platform for the doctrine, then the Middle Ages saw a consolidation of it according to McGrath. In Kuhnian puzzle-solving mode, the medieval theologians sought to further refine it. McGrath notes again that:

> The characteristic medieval understanding of the nature of justification may then be summarized thus: justification refers not merely to the beginning of the Christian life, but also to its continuation and ultimate perfection, in which Christians are made righteous in the sight of God and of humanity through a fundamental change in their nature, and not merely in their status.[700]

At this stage, justification had been tacitly accepted, but what this ultimately meant was being further advanced by other theologians. Kuhn put it this way: "... one of the things a

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[697] *Ibid.*, 43.
[698] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 181.
[699] Alister E. McGrath, *Iustitia Dei*, 3rd ed. (Cambridge: Cambridge University Press, 2005), 44.
[700] *Ibid.*, 59.

scientific community acquires with a paradigm is a criterion for choosing problems that, while the paradigm is taken for granted, can be assumed to have solutions."[701]

For instance, sanctification during this period is typically understood as proceeding from a sinner after being justified, and involves the process of inner renewal. But this is not where the understanding of justification ends. McGrath succinctly notes that "… this fundamental difference concerning the nature of justification remains one of the best *differentiae* between the doctrines of justification associated with the medieval and the Reformation periods."[702] It was during the Middle Ages that the rise of Christian scholasticism took hold. Perhaps most notably, it is during this time that Aquinas stamped his mark on the Roman Catholic Church. Thomas wrote his *Summa Theologiae*, which is well known for maintaining a distinction between faith and reason. He believed that "the reality and oneness of God" could be demonstrated through rational steps.[703] Discontent grew among some that the Christian faith was not able to answer every possible question and so "anomalies" expressed by Duns Scotus and William Occam, among others, were beginning to show.[704] In their view, the paradigm which Thomas was proposing had paradoxically raised questions which it could not answer. Protestants believed these answers could be obtained with a reinterpretation of the doctrine of justification, among other things.

Looking back, the writings of Augustine and the consolidation of the doctrine of justification seem to lead to the Reformation. It is this doctrine which provided the fulcrum of the dispute between Protestants and the Roman Catholic Church. Roman Catholics viewed the Reformation as innovations and new teachings pitted against what they believed to be orthodoxy. There are several characteristics of the Reformation's understanding on the nature of justification which McGrath lists.[705] These are:

1. Justification is a declaration that believers are righteous, rather than a process for which they are made righteous. The change is in their status, not in their nature.

[701] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 37.
[702] Alister E. McGrath, *Iustitia Dei*, 3rd ed. (Cambridge: Cambridge University Press, 2005), 60.
[703] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 3, The Growth of Medieval Theology (600-1300)* (Chicago, London: The University of Chicago Press, 1978), 284-5.
[704] Hanns Lilje, *Luther Now* (Philadelphia: Muhlenberg Press, 1952), 43-4.
[705] Alister E. McGrath, *Iustitia Dei*, 3rd ed. (Cambridge: Cambridge University Press, 2005), 212-3.

2. This leads to the obvious distinction, where there had been none previously, between justification and sanctification or regeneration.

3. The formal cause of justification is found in God rather than in something inherent in humanity.

However, it would be a mistake to think Luther was the only person to stand up to the Roman Catholic paradigm of the time. Whilst Luther laid the groundwork for establishing a distinct position from that predominant at the time, it was left to others like Melanchthon to firmly establish the forensic nature of justification as outlined above.[706] Just as Luther caused a revolution with his theses, further mini-revolutions occurred within Lutheranism itself. After Luther died, two warring groups emerged: the Gnesio-Lutherans and the Philippists (following Philip Melanchthon's views). The former declared themselves to be the true Lutherans, while the latter were more conciliatory towards Rome in judging that some matters were rather peripheral.[707] Relating this to Kuhn's ideas, one could say that the Gnesio-Lutherans saw their position and views as completely incommensurable to Rome, while the Philippists thought some of their differences did not amount to a "crisis".

The Reformation and the Protestant views on justification prompted a response by Rome. It is interesting to note that the Reformation had forced the Roman Catholic Church to

> … decide which of the various alternatives [on justification] it would define. It moved from pluralism to definition on several fronts, but chiefly on the two sets of issues identified by some later theologians as the "formal" and "material" principles of the Reformation: the nature and locus of authority; and the doctrine of justification, with its presuppositions in the doctrine of original sin.[708]

The statement highlights the link between the doctrine of original sin and justification, thereby demonstrating again Kuhn's idea of a paradigm comprising of a constellation of group commitments.[709] The Council of Trent devoted the sixth session to the issue of the doctrine of

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[706] *Ibid.*, 213.
[707] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day* (Grand Rapids: Zondervan, 2013), 147.
[708] Jaroslav Pelikan, *The Christian Tradition: A History of the Development of Doctrine, vol. 4. Reformation of Church and Dogma (1300-1700).* (Chicago, London: The University of Chicago Press, 1984), 274-5.
[709] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 181.

justification with a decree against it being its most significant achievement.[710] However, there were some theologians who were sympathetic to Luther, but they were overwhelmed in numbers by the conservatives of the Roman Catholic Church. Woodbridge and James list several of the canons resulting from the council which directly refute Luther and the Protestant's views on justification. These include:[711]

- "If anyone says that a sinful man is justified by faith alone … let him be anathema." (Canon 9)
- "If anyone says that men are justified either through the imputation of Christ's justice alone, or through the remissions of sins alone … let him be anathema." (Canon 11)
- "If anyone says that good works of a justified man are gifts of God to such an extent that they are not also the good merits of the justified man himself … let him be anathema." (Canon 32)

The difference between what the Roman Catholics expressed in the Council and what the Protestants claimed, can be summed up in the following manner: the Council of Trent understood justification to include both legal justification and moral sanctification, while Protestants restricted it to legal justification.[712] Catholics believed the Protestants' view of justification undermined human responsibility. Protestants, on the other hand, believed that the Roman Catholic definition of justification extolled human effort, thereby undermining God's grace.[713] At that time, there was an impasse between the views of the Protestant movement and that of Rome. These differences were so great that they were irreconcilable and, to use Kuhn's words, "the inevitable result is what we must call, though the term is not quite right, a misunderstanding between the two competing schools."[714]

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[710] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day.* (Grand Rapids: Zondervan, 2013), 211.
[711] *Ibid.,* 212.
[712] Jaroslav Pelikan, *The Christian Tradition: A History of the Development of Doctrine, vol. 4. Reformation of Church and Dogma (1300-1700).*(Chicago, London: The University of Chicago Press, 1984), 283.
[713] *Ibid.,* 213.
[714] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 148.

The cataclysmic impact of Luther and the Reformation should not be undermined or underestimated, and neither should the opposition or debate it caused within the Church. It marked a watershed moment in Christianity for the way some believers came to understand how a person is saved. Olson remarks:

> The heart and essence of Luther's theological contribution, then, was salvation as a free gift of divine mercy for which the human person can do nothing. Many modern Protestants and even some Catholics take this idea for granted as if it has always been believed. But that is to ignore the revolutionary role played by Luther in recovering what had been largely lost and ignored for over one thousand years.[715]

[715] Roger E. Olson, *The Story of Christian Theology* (Leicester: Apollos, 1999), 168-71.

CHAPTER 7

Identifying Kuhnian Concepts in Some Contemporary Theories in Doctrinal Development Literature

Over the last few decades, there has been growing awareness in the literature of doctrinal development and the factors which influence its progress. Here, the focus is in understanding the way some key aspects of Kuhn's ideas intersect with this literature. The works of Kevin Vanhoozer, Alister McGrath, Rhyne Putman and Anthony Thiselton are discussed and understood with respect to three crucial aspects identified by Kuhn and its analogies to scientific progress: the tension between tradition and the development of doctrine, the importance of interpretation in the development of doctrine, and the role of communities in the development of doctrine.[716]

For the first theme, Kuhn believed that the tension that exists between tradition and the progress of science is not explicitly stated and is rather implied in textbooks due to the presence of dominant paradigms.[717] In science, there are problems where there are universally accepted solutions. However, the training a student acquires is to prepare him or her to solve problems for which there are not any unequivocal answers. Kuhn wrote this paradoxical statement "… the student requires a thoroughgoing commitment to the tradition with which, if he is fully successful, he will break."[718] Here, there is a correspondence between Kuhn's views with regards to science and the development of doctrine.

Secondly, Kuhn also asserted that worldviews and paradigms play a major role in the scientific progress. As mentioned, scientific progress does not occur in a vacuum and so results are understood within a background of assumptions and axioms which a scientist brings into his or her work. Kuhn noted "Scientific knowledge is embedded in theory and rules; problems are supplied to gain facility in their application."[719] This has an impact in the way that a text is

[716] Interpretation in this context is equivalent to hermeneutics. This simply describes the way a text is read and understood.
[717] Thomas S. Kuhn, *The Essential Tension* (Chicago, London: The University of Chicago Press, 1977), 229.
[718] *Ibid.*, 235.
[719] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 187.

interpreted, and new knowledge gleaned is consequently disseminated. The role of interpretation in the formulation of Christian doctrine is also investigated in relation to Kuhn's work.

Thirdly, Kuhn was one of the first philosophers of science to state that a community of practicing scientists is crucial in the way science progresses. It is a community who, through sheer weight of numbers, asserts the dominance of a particular paradigm so that any scientific progress is carried out by a group in agreement over a core set of assumptions.[720] This symbiotic relationship between paradigms and communities is also analysed with respect to the development of doctrine.

7.1 The Tension Between Tradition and the Development of Doctrine

Kuhn's work is well known, among other things, for positing that the progress of science is neither smooth nor free from polemics. Although for the most part it steadily adds new knowledge and advances through the discovery of new theories, there are times when scientific revolutions take place. Science occurs under an overarching framework or paradigm which acts as a filter through which new results are to be interpreted. When these new results appear but cannot be reconciled within this paradigm, it is thought of as an anomaly. A single anomaly on its own is not usually enough to cause a revolution which overthrows an existing paradigm. When enough anomalies come to prominence, a crisis might ensue leading to the search for a new paradigm which can adequately accommodate the existing theories. However, there is an inherent tension present if science does indeed occur in this manner: on the one hand, a dominant paradigm guides and influences the way research is conducted and results are to be understood; but on the other, science also aims to discover new and exciting findings.

Normally, new theories do not tend to be surprising but rather, they seek to strengthen the status quo and quash any potential dissenting views. Kuhn wrote:

> No part of the aim of normal science is to call forth new sorts of phenomena; indeed those that do not fit the box are often not seen at all. Nor do scientists normally aim to invent new theories and they are often intolerant of those invented by others. Instead, normal scientific research is directed to the

[720] *Ibid.,* 175.

> articulation of those phenomena and theories that the paradigm already supplies.[721]

Kuhn believed that textbooks play an authoritative role by giving the impression that the progress of science has always been an accumulating endeavour: "… partly by selection and partly by distortion, the scientists of earlier ages are implicitly represented as having worked upon the same set of fixed problems … No wonder that textbooks and the historical tradition they imply have to be rewritten after each subsequent revolution."[722]

Tradition is also of great importance in Christianity, as is the authority responsible for upholding it. Gonzalez points out that "much of the history of Christian doctrine has been a struggle over tradition – that is, over the question of who is the true representative of tradition, and whose views uphold or deny the tradition."[723] McGrath is even more emphatic and echoes Kuhn's thoughts on the subliminal nature of history when he writes

> The past, however, remains an obstinate aspect of the present. We do not live within a vacuum, but within a context, the intellectual, cultural and social contours of which have been shaped by the past … The influence of the past paradoxically, is at its greatest precisely when it is undetected or unacknowledged –when certain present day axioms and presuppositions, allegedly self-evident, in fact turn out to represent the crystallized prejudices of an earlier generation.[724]

Subsequently, McGrath proposes that a model which denotes doctrinal development must have the following four points:[725]

1. It will be descriptive, not prescriptive so that it is based on the historical study of Christian theology without reference to any preconceived notions.
2. It will acknowledge the parallels between the episodic and discontinuous development of scientific theories, and the development of Christian doctrine.
3. It avoids foundationalist assumptions.

[721] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 24.
[722] *Ibid.*, 137.
[723] Justo L. Gonzalez, *A Concise History of Christian Doctrine*. (Nashville: Abingdon Press, 2005), 195.
[724] Alister McGrath, *The Genesis of Doctrine* (William B. Eerdmans and Regent College Publishing, 1990), 82.
[725] Alister E. McGrath, *Scientific Theology : Volume 3*: *Theory* (T & T Clark: London, 2003), 219.

4. It recognizes that the developmental pressures which may be identified can point in different directions, sometimes leading to different local outcomes, or occasional appearances of stagnation or retrogression.

An existing paradigm must allow and even encourage new and unprecedented results which are completely unexpected. Kuhn wrote: "This is the point - the ultimate effect of this tradition-bound work has invariably been to change the tradition. Again and again the continuing attempt to elucidate a currently received tradition has at last produced one of those shifts in fundamental theory."[726] Maurice Wiles was perhaps the first person to note a parallel with Kuhn's scientific revolutions and the way doctrines develop.[727] He described the issue of development of doctrine, yet at the same time the need to safeguard it against subjectivity. He proposed that perhaps the unifying thread is that there is a continuity of doctrinal aims.[728] Wiles wrote with respect to the Church Fathers, "Their doctrinal affirmations were based upon an appeal to the record of Scripture, the activity of worship, and the experience of salvation."[729] Yarnell notes that while tradition was fixed in the apostolic age, there is the work of the Holy Spirit which means the Scriptures are not simply relegated as an historical account: "Although the revelation is affixed to the Bible, its illumination by the Spirit is dynamic in that it is not limited to previous perceptions. And yet there should also be a deep respect for the work of the one Spirit in the entire history of the Churches of the one Christ…"[730] Yarnell has a deep respect for the infallibility of the Scriptures but understands that there is a dynamic aspect which must be present in the way they are revealed to a believer. A recent book by Rhyne Putman notes this is of fundamental importance for understanding the development of Christian doctrine when he writes:

> If history is any indication, postcanonical doctrinal development is an inevitable reality in the Christian theological tradition. But such development can also serve as a significant threat to the identity and continuity of the received tradition. Can theology present expressions of belief and remain faithful to the unique authority and sufficiency of the Bible? More practically, can the contemporary systematic theologian address current crises and still maintain continuity with biblical faith?

[726] Thomas S. Kuhn, *The Essential Tension* (Chicago, London: The University of Chicago Press, 1977), 234.
[727] Maurice Wiles, *The Making of Christian Doctrine* (Cambridge University Press: [1967] 1978), 169-71.
[728] *Ibid.*, 173.
[729] *Ibid.*, 173.
[730] Malcom B. Yarnell III, *The Formation of Christian Doctrine* (Nashville, TN: B & H Academic, 2007), 138.

> The theologian who takes up the so-called *problem of doctrinal development* assumes that God has once and for all revealed himself through the medium of human language in Scripture and must by some means explain how Christian doctrines, which purport to be grounded in this revelation, continue to grow or develop even after the epoch of canonical revelation is closed.[731]

Putman gives a detailed summary of Thiselton and Vanhoozer's work on doctrinal development and remarks that while Thiselton provides a descriptive account of doctrinal development, Vanhoozer's work is normative in nature.[732] For Thiselton, against the backdrop of truth claims about the nature of God or biblical history, situations arise which require new responses or ways of taking a stand.[733] Framing these beliefs in terms of dispositions, these beliefs are difficult to change and can be multifaceted. Beliefs also do not merely involve the individual but are communal.[734] This resistance to change is what allows for continuity in development. Commenting on Vanhoozer, Putman notes that continuity exists because of its missiological criterion and writes: "Doctrines may grow or develop in ways that are not exact duplications of past formulations, but they may retain continuity or identity in a shared mission found in the gospel of the triune God."[735] In conjunction, there is the impact of culture in preserving doctrine. Under the assumption that different cultures have rules of law and other stable norms, this then aids the continuity of doctrine.[736]

For Christianity, if one is to strictly define paradigms only in the way that Küng describes them,[737] not much of an argument can be mounted for there being a continuity of doctrine.[738] On the other hand, if the paradigm is orthodox Christianity, then clearly the Scriptures are at least an everlasting source for the development of doctrine. Vanhoozer has taken a novel approach in describing the role of doctrine and asks individuals to engage in the "drama" of what God is

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[731] Rhyne R. Putman, *In Defense of Doctrine: Evangelicalism, Theology and Scripture* (Minneapolis, MN: Fortress Press, 2015), 38-9.
[732] In this paper, the focus is mainly on Vanhoozer's *The Drama of Doctrine* (2005), rather than his more recent *Faith Speaking Understanding: Performing the Drama of Doctrine* (2015) as the latter emphasises the performance of doctrine rather than its formation.
[733] Rhyne R. Putman, *In Defense of Doctrine: Evangelicalism, Theology and Scripture*. (Minneapolis: Fortress Press, 2015), 332-3.
[734] *Ibid.*, 340.
[735] *Ibid.*, 342.
[736] *Ibid.*, 343.
[737] Hans Küng, *Theology for the Third Millennium: An Ecumenical View.* (New York: Anchor Books, 1990), 129, 139-61. Küng merely describes paradigms as neatly distinct epochs of Christian history distinguished by a predominant worldview at any given time.
[738] R. P. C. Hanson, *The Continuity of Christian Doctrine.* (New York: Seabury Press, 1981), 72.

doing, to renew all things in Jesus Christ. Vanhoozer insists that "... if doctrine does change, what criteria can we use to distinguish legitimate developments from heretical distortions?"[739] Although like Yarnell, he affirms the foundational authority of the Scriptures, he nevertheless maintains that "Doctrine's direction must therefore be susceptible of fresh appropriations in new cultural-historical settings."[740] That is, the tension already highlighted by Kuhn with regards to science also seems to be present in the way doctrine should be communicated and expounded upon in Christianity.

Vanhoozer also expands on the work of Lindbeck who believed cultural and social issues have led to an emphasis of individual religions to the detriment of traditional propositional understandings of religion.[741] An understanding of these factors allows for interreligious dialogue by encouraging the expression of symbols as evidence of an ultimate, unifying reality. However, the problem is that such an approach can quickly descend into a relativistic morass as these symbols are restricted to a place or time. Lindbeck noted that despite some Roman Catholic theologians' efforts in trying to mediate a middle ground, there is a growing gap between these experiential expressivist forms and the more theological approaches.[742] Vanhoozer makes the Bible the starting point of doctrine, but recognises that developing doctrine is a multidimensional task that involves historical, literary and ideological approaches.[743]

Thiselton also discusses this problem but with a slightly different take on what is the root of the tension. He briefly mentions the work of Küng and Tracy[744] and asserts that the source of this tension boils down to the problem of a dialectic between theory and praxis.[745] Thiselton also expresses the importance of a community, and in the end he seems quite content with letting a plurality of voices from the Bible speak on their own without artificially trying to harmonise them. Yet this does not mean that they are contradictory.[746] Thiselton writes:

> Two points are especially important for a hermeneutics of doctrine. First, the canon is not artificially contrived set of books awaitingdecision or imprimatur

[739] *Ibid.*, 111-2.
[740] Kevin J. Vanhoozer, *The Drama of Doctrine.* (Louisville: Westminster John Knox Press, 2005), 111.
[741] George A. Lindbeck, *The Nature of Doctrine.* (Philadelphia: The Westminster Press, 1984), 21-2.
[742] *Ibid.*, 24-5.
[743] Kevin J. Vanhoozer, *The Drama of Doctrine* .(Louisville: Westminster John Knox Press, 2005), 18.
[744] Hans Küng and David Tracy (eds). 1991. *Paradigm Change in Theology*, Tr. by. Margaret Kohl. (New York: Crossroad).
[745] Anthony C. Thiselton, *The Hermeneutics of Doctrine* (Grand Rapids, Cambridge: W.. B. Eerdmans, 2007), 119-20.
[746] The importance of a community will be addressed later in much more detail.

> from the third or fourth centuries … Second, the writers in question [of *Canon and Biblical Interpretation*] demonstrate their respect for the integrity of specific voices without attempts at artificial harmonization, and let the interaction between different viewpoints speak *together* as *different* (but not contradictory) voices.[747]

However, this plurality of voices emanating from the Bible must ultimately be understood by human beings with particular worldviews. It might be the case that for a considerable period of time a particular worldview prevails and ultimately silences other voices which are just as valid. For instance, with regards to providence, Thiselton cites the example of Ecclesiastes and Job being different yet complementary to Deuteronomy and Proverbs.[748] However, a person or a group of people going through incredible hardship might relate much more with Job than Proverbs. On the other hand, someone who is perhaps not going through fiery trials but is seeking more wisdom, might be tempted to read more on the vignettes that Proverbs offer. A particular situation or context renders itself much more likely to a particular Scripture than another. Similarly for the sciences, in analysing the work of Kuhn, Hoyningen-Huene makes the interesting point that the concept of incommensurability in scientific paradigms might have been misunderstood.[749] It is easy to see how Kuhn's words on the nature of competing paradigms, namely "the competition between paradigms is not the sort that can be solved by proofs"[750] might be taken to imply the presence of discontinuity between paradigms. However, Hoyningen-Huene believes that this is a misunderstanding because after a revolution, some parts of normal science remain.[751] Hence, in continuing with the example of Job and Proverbs, a particular season might lend itself to a reader identifying with the sufferings of Job; and yet better times do not invalidate what was learned from reading that book.

Yarnell stresses the ultimate authority of Scripture and its sufficiency. The presence of the Holy Spirit assumes that though variety exists among individuals, there is a unity and a common understanding. Following on from the work of Lindbeck, Vanhoozer discusses the importance of a given culture to portray and give a voice to the Scriptures, but with due

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[747] Anthony C. Thiselton, *The Hermeneutics of Doctrine* (Grand Rapids, Cambridge: W. B. Eerdmans, 2007), 144.
[748] *Ibid.*, 143-4.
[749] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions.* (Chicago and London: The University of Chicago Press, 1993), 222.
[750] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 147.
[751] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions.* (Chicago, London: The University of Chicago Press, 1993), 222.

consideration to alternative approaches. Thiselton notes that the different voices present in the Scripture do not constitute the presence of contradictions, but rather the importance of context within which each perspective takes place. In short, for Christianity, a shared rational understanding that is endowed by the Holy Spirit, allows for the development of doctrine and for the flexibility of historical context. This is both in terms of the writers of different parts of the Scriptures, and with respect to the different interpretative approaches taken into account. This concept which takes on the different aspects that each writer identified, underlines not only a plurality but also a commonality. Van Huyssteen echoes this sentiment and believed this is possible because of a common rationality and writes: "The fact that the rich resources of human rationality are shared by and significantly overlap in scientific and theological rationality, as identified in the quest for optimal understanding, responsible judgment, and progressive problem-solving, has also revealed a significant breakdown of the traditional modernist demarcation between scientific and nonscientific rationality."[752] This point by Van Huyssteen is also one that is shared by Hoyningen-Huene who discusses another common misunderstanding with regards to incommensurability, namely that incommensurable paradigms in science are incomparable. He writes

> Any juxtaposition of the two theories must have a holistic character, in the sense that all theoretical moments, hence all differences must be considered more or less simultaneously. To be sure, some facts may be formulated in one theory but not in the other. Yet the holistic comparison of the potentials of the two theories is not thereby ruled out.[753]

If this also applies to the development of doctrine, then this suggests the presence of both continuity and fixity. There is fixity because two paradigms can only be compared if there is at least one point of commonality, and there is obviously continuity because a change in paradigm allows for the integration of anomalies which were not previously possible and for the development of "normal science" which would not have been normal under the previous paradigm. The existence of a paradigm, nevertheless, gives rise to another key element in the development of doctrine, namely, interpretation.

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[752] J. Wenzel Van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science*. (Grand Rapids, Cambridge: W. B. Eerdmans, 1999), 181.
[753] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions*. (Chicago, London: The University of Chicago Press, 1993), 221.

7.2 The Importance of Interpretation for Developing Doctrine

The influence of interpretation and communication in the development of doctrine has already been mentioned in the previous section. Similarly, the mere proposal of there being varying and different approaches to hermeneutics might open a Pandora's Box and suggest relativism. This same accusation has also been labelled at Kuhn with regards to his views on the way science progresses. He wrote with some lament

> My views, it is said, make of theory choice "a matter for mob psychology". Kuhn believes, I am told, that "the decision of a scientific group to adopt a new paradigm cannot be based on good reasons of any kind, factual or otherwise." The debates surrounding such choices, must, my critics claim, be for me "mere persuasive displays without deliberate substance."[754]

Even though he goes on to describe criteria such as accuracy, consistency, scope, simplicity and fruitfulness as suitable for determining the adequacy of a theory, these do not seem to have abated his detractors. Neither is the core notion that a new paradigm must be able to integrate the old theories, as well as the new anomalies. This requirement suggests that a new paradigm expands the problem-solving capability of the old paradigm. If these detractors are right about Kuhn, then a consequence would be the presence of complete discontinuities in the development of doctrine. Yet this does not seem to bear true. McGrath suggests that doctrine, far from being a subjective and culturally dependant endeavour, is rooted in history and tradition.

> Christian doctrine may be regarded as the present outcome of that long growth of tradition in which the Christian community has struggled to arrive at an interpretation of its foundational traditions, embodied in the New Testament, which both does justice to its own present place in tradition, and attempts to eliminate those doctrinal pre-judgments which are to be judged as inadequate. It is a historical phenomenon, grounded in history and conscious of its own historicity.[755]

Nevertheless, in case this implies that doctrine is stale, McGrath also notes that "doctrine is an *activity*, a process of transmission of the collective wisdom of a community, rather than a

[754] Thomas S. Kuhn, *The Essential Tension*. (Chicago and London: The University of Chicago Press, 1977), 321.
[755] Alister McGrath, *The Genesis of Doctrine*. (Various: W. B. Eerdmans and Regent College Publishing, 1990), 12.

passive set of deliverances."[756] When one thinks of doctrine in this manner: as a context dependant exercise, but which is anchored in its history, then that frees Christianity from the shackles of traditionalism for its own sake and also from the dangers of socio-cultural factors overstretching their impact on the Church. He lists a few criteria for the development of doctrine. These are: 1) doctrine is a social demarcator, 2) doctrine is generated and interpreted by the Christian narrative, 3) doctrine interprets experience and 4) doctrine makes truth claims.[757] Toon also maintained that every church and denominational doctrine is "historically and culturally conditioned."[758] Doctrine is not created in a vacuum by gleaning the Scriptures without reference to society and the culture around it. Rather, doctrine is historically moulded as a response to questions put to the Church. This means the same truth is viewed differently according to different perspectives and circumstances so that development is not in the form of regular organic growth, but it is rather complex and intricate. Yarnell, however, criticises both McGrath and Toon in that they elevate either tradition and/or rational theories as necessary to supplement the Scriptures. Although Yarnell commends them for allowing a key place for Christ and the Scriptures, he believes they are weak in the roles of pneumatology and ecclesiology and seem to play in doctrinal formulations.[759]

Vanhoozer describes the process of interpreting and understanding doctrine as being a *drama.* Citing Serene Jones, he writes: "Doctrines are "like loose but nonetheless definitive scripts that persons of faith perform; doctrines are the drama in which we live out our lives."[760] There is a constant interaction between texts, not only the way those texts are understood but also which are lived out in a believer's everyday life. It is interesting that just like Thiselton, Vanhoozer also mentions the theory/practice dichotomy and believes viewing the drama this way is a means of overcoming that problem. Vanhoozer again notes:

> The drama stems from the clash between ideology (read: theology) of the text and that of the reader, on the one hand, and from the conflict of disciplinary approaches, methods, and rival ways of reading the text, on the other. One goal of the present work is to model a post-critical approach to biblical interpretation that respects both the principle – or rather, practice – of *sola scriptura* and the location

[756] *Ibid.*, 11.
[757] *Ibid.*, 37.
[758] Peter Toon,*The Development of Doctrine in the Church*. (California: W. B. Eerdmans, 1979), 81.
[759] Malcom B. Yarnell III, *The Formation of Christian Doctrine*. (Nashville: B & H Academic, 2007), 126-7.
[760] Kevin J. Vanhoozer, *The Drama of Doctrine.* (Louisville: Westminster John Knox Press, 2005), 18.

> of the interpretive community that nevertheless results in performance knowledge and doctrinal truth.[761]

Of course, not all Christian denominations actively and consistently apply the principle of *sola scriptura* – the principle that the Bible or Scriptures should be the sole rule of faith, but they all would agree that there is an unshakable and unquestioned authority. This definitive authority and the teachings that they carry must be interpreted and lived out by real people. According to Putman, authority is crucial in the way a text is to be interpreted. It acts as a guide towards determining what is heterodoxy and heresy.[762] He states that evangelicals take Scripture as their primary source, while Roman Catholics also defend the ecclesial tradition embodied in councils, as well as the papacy, as being a supplement to revelation.[763] This is linked to establishing a worldview which is shared across a community and "provides a frame of reference to develop new knowledge and understandings."[764] However, the Christian faith is more than a mere set of propositions. It is a faith that is lived out and practiced so that the development of doctrine should not be reduced to a single strategy or method.[765] Nevertheless, Putman believes that doctrinal development has much in common with the natural sciences. Using Kuhnian-like terms, Putman notes that: "Doctrinal statements, like scientific theories, may strive for reality depiction but also like scientific theories, they are corrigible or open to revision and correction if deemed necessary."[766] Science and theology work within frameworks of belief, but in both domains "models or theories may grow, change, or be discarded" [767] aiming to articulate scientific and theological realities respectively.

In science, the emphasis of "living out" a theory is understandably either non-existent or rather trivial. However, an analogy can be made with the way scientific theories do or do not match observations. Any struggle to reconcile these aspects of science would mirror the difficulties of theory and praxis in the development of doctrine. Hoyningen-Huene, in discussing

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[761] *Ibid.*, 19.
[762] Rhyne R. Putman, *In Defense of Doctrine: Evangelicalism, Theology and Scripture* .(Minneapolis: Fortress Press, 2015), 210.
[763] *Ibid.*, 211-2.
[764] *Ibid.*, 227.
[765] *Ibid.*, 294.
[766] *Ibid.*, 306.
[767] *Ibid.*, 306.

Kuhn's work, talks about *ways of learning concepts*[768] rather than focus on this binary categorisation. He states that when laws and theories are used to help with concept learning, a student will typically apply that law in a specific situation and then seek to apply those laws to other analogous contexts. He writes: "These similarities permit the specification of the law-schemata for new situations by analogy with the specifications appropriate to familiar situations. In other words, they make it possible to apply the concepts occurring in the schemata to new problem situations."[769] Although the scientist is using well-established theoretical concepts, he or she nevertheless appropriates those learned methods and techniques in a manner which is particular to the problem that is currently being tackled.

Even within the doctrinal development literature cited in this section it can be seen that the authors themselves are guided by their own paradigms. Recall that Yarnell highlights a person's freedom to read the Scriptures by his or herself and understand them with the aid of the Holy Spirit and God-given intellect. This again speaks of a worldview from which the Scriptures are interpreted. Further, by citing Marpeck, Yarnell employs the writings of an English Methodist historian as an exemplar of the views of Free-Church historians to describe development of doctrine. This subtly shows that in formulating doctrine, there are factors that are outside of Christianity which are crucial. Yarnell's selective use of previous theologians' work to support a particular view of doctrinal development, demonstrates that his views are not solely furnished by proofs or evidences.[770] For Vanhoozer, his use of the Bible as the founding cornerstone by which doctrine should proceed, also reveals his personal biases and preferences, even if he does go to great lengths to stress the importance that history, interpretation and culture play in the way a doctrine is to be communicated and lived out.

Culture is indeed important and shapes interpretation of particular texts or situations. Again, Lindbeck described a cultural-linguistic approach which takes into account its importance without elevating it as authoritative. This approach defines religion as an idiom and is a guide, rather than a set of regulations which set out hard and fast rules for what is or is not permissible. He wrote:

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[768] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions.* (Chicago, London: The University of Chicago Press, 1993), 93.
[769] *Ibid.*, 104.
[770] Malcom B. Yarnell III, *The Formation of Christian Doctrine.* (Nashville: B & H Academic, 2007).

> A religion can be viewed as a kind of cultural and/or linguistic framework or medium that the entirety of life and thought … It is not primarily an array of beliefs about the true and the good (though it may involve these), or a symbolism expressive of basic attitudes, feelings, or sentiments (though these will be generated). Rather, it is similar to an idiom that makes possible the description of realities, the formulation of beliefs, and the experiencing of inner attitudes, feelings, and sentiments. Like a culture or language, it is a communal phenomenon that shapes the subjectivities of individuals rather than being primarily a manifestation of those subjectivities.[771]

This cultural-linguistic approach must be able to "handle anthropological, historical, and other non-theological data better than do the alternatives …"[772] It appears to place some boundaries on the extent human experience is shaped and moulded because it is constrained by cultural and linguistic factors. Vanhoozer disagrees and believes Lindbeck places too much emphasis on community practice and thereby downgrades the standing of the Scriptures. The question is the basis, foundation or authority by which interpretation should take place, rather than whether interpretation should take place at all. Vanhoozer writes:

> The aim of Lindbeck's cultural-linguistic approach is to initiate persons into and preserve the set of grammatically correct linguistic practices that structure the life of the church and shape Christian identity … In Lindbeck's regulative theory, doctrine does not direct community but is directed by it. Doctrine stands in a second-order relationship not to Scripture but to the use of Scripture in the church. What seems to matter most in cultural-linguistic theology is "socializing" persons into a set of authoritative communal practices.[773]

Thiselton is respectful of the authority of Scripture, but there is a caveat. He "asserts the authority of the self in determining what is true for the present."[774] This also means that hermeneutics is paramount to Thiselton, with Putman asserting the necessity of experience for Thiselton in this regard. Interpretation cannot be planned or be deliberate by method and is an exploration of what it means to be human.[775] This, in turn, has an effect on the interpreter so that the hermeneutics of doctrine has a transformative effect. Thiselton writes:

> Biblical hermeneutics explores levels of meaning, strategies of reading, historical distance, appropriation, engagement, and formation, and often features patient and

[771] George A. Lindbeck, *The Nature of Doctrine.* (Philadelphia: The Westminster Press, 1984), 33.
[772] *Ibid.*, 30.
[773] Kevin J. Vanhoozer, *The Drama of Doctrine.* (Louisville: Westminster John Knox Press, 2005), 96-7.
[774] Rhyne R. Putman, *In Defense of Doctrine: Evangelicalism, Theology and Scripture*. (Minneapolis: Fortress Press, 2015), 146.
[775] *Ibid.*, 129-30.

> attentive listening … Can these habits of mind, with the historical, intellectual, and moral resources of hermeneutics, be placed at the service of understanding, exploring, appropriating, and applying Christian doctrine?[776]

In short, Yarnell focuses on the Spirit's role in developing doctrine, which is based on an infallible source – the Scriptures. Vanhoozer stresses the importance of culture, while Thiselton believes that experience and an individual's reception of it are critical in the development of doctrine. All of these may not agree with one another; however, they all underscore the impact of non-rational or contextual factors in understanding the way doctrine develops.

Kuhn also understood interpretation was very important to the way science progresses and maintained this can only be done through the lenses of a paradigm.[777] But when a paradigm changes due to a revolution, this cannot be fully explained by reinterpretation.[778] This does not mean that reinterpretation does not occur at all, but only that the constraints imposed by a person's paradigm may limit extravagant developments and thus constant upheaval. However, Christianity does not exist within merely an individual's mind. The body of believers is often referred to as the Church, and as such, the role of the Christian community for interpretation is crucial. This is discussed next.

7.3 The Role of Communities in the Development of Doctrine

Kuhn wrote in detail on the role that communities play in scientific progress. He believed that in order for science to advance and accumulate new theories, there is a group of people that take charge and steadily come up with novel results. These results are not revolutionary and are not unexpected. They are all conducted within a paradigm which provides a set of rules and axioms through which all research is to be conducted.

In the development of doctrine, there are theologians who state that this is also the case. McGrath believes that this social aspect is what demarcates doctrine from theology:

> It will be clear that the distinction between 'doctrine' and 'theology' serves to emphasize the social function associated with the former, yet denied to the latter.

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[776] Anthony C. Thiselton, *The Hermeneutics of Doctrine*. (Grand Rapids and Cambridge: W. B. Eerdmans Publishing, 2007), xx.
[777] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 122.
[778] *Ibid.*, 121.

> Doctrine identifies social communities. Ecclesial bodies may indeed 'receive' – in the technical sense of the term – theologies, thus altering their status to that of doctrine: this process of reception, however ... takes place at the communal, not the individual, level. Theology may be received as doctrine; without reception, it remains theology.[779]

According to this definition, doctrine defines a community, which in turn receives and takes as given, an interpretation of a Christian narrative or experience.[780] Vanhoozer makes a similar distinction when he says: "Theology here becomes a matter of ecclesial self-description, of unpacking the implicit logic of Christian worship, doctrine, and ethics. Doctrines are thus, to paraphrase Schleiermacher, *accounts of the church's corporate expressions set forth in speech.*"[781] McGrath goes into more detail in attempting to describe the role of social constructs in developing doctrine when he makes the following points:[782]

1. At least some aspects of the process of doctrinal development and reception are socially constructed.
2. Social constructs are subject to constant reappraisal and revision in the light of advancing knowledge and experimental observation.
3. A realistic approach to God or to the world is not called into question through the recognition of socially constructed aspects of the theories developed by either Christian theology or the natural sciences.

Thiselton also argues that "doctrine carries with it a communal commitment and communal formation."[783] Here, the parallels with Kuhn's depiction of what constitutes scientific communities are obvious. As Kuhn noted:

> A scientific community consists, on this view, of the practitioners of a scientific specialty. To an extent unparalleled in most other fields, in the process they have undergone similar educations and professional initiations; in the process they have

[779] Alister McGrath, *The Genesis of Doctrine*. (Various: W. B. Eerdmans and Regent College Publishing, 1990), 46.
[780] *Ibid.*, 37.
[781] Kevin J. Vanhoozer, *The Drama of Doctrine*. (Louisville: Westminster John Knox Press, 2005), 166.
[782] Alister E. McGrath, *Scientific Theology : Volume 3*: *Theory.* (T & T Clark: London, 2003), 66.
[783] Anthony C. Thiselton, *The Hermeneutics of Doctrine*. (Grand Rapids, Cambridge: W. B. Eerdmans, 2007), 21-2.

absorbed the same technical literature and drawn many of the same lessons from it.[784]

While Vanhoozer affirms the importance of the Church as a community, he points out that this community will have rules and acceptable behaviour only as far as it conforms to the Scriptures.[785] Yet this community is indispensable since "... without a people to embody it the [Holy] script lacks something essential, for the canon delivers its meaning only as it is 'played out' in patters of human action in Church and society."[786] These rules and behaviour which Vanhoozer depicts, are analogous to the paradigm under which a group of scientists would work . Kuhn noted that "scientists ... require criteria to tell them which particular symbolic version should be applied to which problem, and these criteria, like the correlation rules that are said to transport meaning from a basic vocabulary to theoretical terms, would be a vehicle for empirical content."[787]

Yarnell describes a congregationalist view on the way the Church should be run. Thus it is not surprising that he takes a very egalitarian and inclusive position in the way doctrine should develop. Recalling the work of Marpeck, he writes "... their [as in the congregation as noted by Marpeck] belief that the Spirit broke to the entire community as it read Scripture together encouraged Anabaptists to seek conversation with other Christians. Theology, for them, was always done best in communal Bible study ... The Anabaptists seemed more than willing to enter debates with the state church theologians, even when it led to persecution."[788] Of course, the assumption was that this was always done, and allowed, by appealing to the authority of Scripture.

McGrath is well aware of the role that a community has in balancing the tension between the need to preserve or continue the past and that of developing doctrine to make it relevant for a given time and place. He notes that the preservation of the Christian tradition rests on the shoulders of a community, i.e.

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[784] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), 176.
[785] Kevin J. Vanhoozer, *The Drama of Doctrine* .(Louisville: Westminster John Knox Press, 2005), 165.
[786] *Ibid.*, 165. Quoting Stephen C. Barton "New Testament Interpretation as Performance", *Scottish Journal of Theology*, **52**, no 2, 140, 1999.
[787] Thomas S. Kuhn, *The Essential Tension*. (Chicago, London: The University of Chicago Press, 1977), 301.
[788] Malcom B. Yarnell III, *The Formation of Christian Doctrine*. (Nashville: B & H Academic, 2007), 102.

> The past generated a tradition to which the present is heir. That tradition involves modes of discourse, ways of conceiving the world, and so forth, which it impressed upon the world, and which was perpetuated in a definite historical form, being mediated through both institutions and individuals. A community arises as the bearer of this tradition, thus establishing its continuity over extended periods of time. Those standing within this tradition detect a resonance of values, language and concepts with the past, in that their outlook has been shaped by a community tradition precipitated by the past.[789]

Hence, for McGrath, the tradition and the history of Christianity serve as a paradigm for the community. It is the framework for which doctrine may or may not develop. There is also a feedback loop mechanism which exists between doctrine and social communities. On the one hand, social constructs, as noted earlier, play a role in developing doctrine; but on the other, doctrine may also function as a social demarcator so that it "… enhances the sense of identity of a community, and facilitates its distinction from other communities."[790] However, McGrath is of the opinion that while this may have occurred throughout the history of Christianity, seeing doctrinal functions as social demarcators among ecclesial traditions, means that ecumenical approaches might be possible.[791]

Nevertheless, McGrath is not a propositionalist. He does not believe that all doctrine can be neatly derived from the past through rules and guidelines. There is also a place for doctrine as an interpretation of experience. He recalls Schleiermacher's thoughts that "… the continuity of Christianity is to be established at the experiential level of the Christian community … and articulated in a purely descriptive manner at the level of doctrine."[792] An emphasis or stress on the importance of interpreting experience as a means of doctrine can have an analogy in the sciences. Logical empiricism or verificationism is the idea that statements verifiable either logically or empirically would be cognitively meaningful.[793] Rejected later on by philosophers such as Gödel and Popper, Kuhn also dismissed this idea on the basis that there might not be "a complete and full account of nature."[794] This is not to say that Kuhn rejected truth, but rather he

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[789] Alister McGrath, *The Genesis of Doctrine* (W. B. Eerdmans and Regent College Publishing, 1990), 188.
[790] Alister E. McGrath, *Scientific Theology : Volume 3*: *Theory.* (T & T Clark: London, 2003), 68.
[791] *Ibid.*, 75.
[792] Alister McGrath, *The Genesis of Doctrine*. (W. B. Eerdmans Publishing and Regent College Publishing, 1990), 67.
[793] Ludwig Wittgenstein's *Tractatus Logico-Philosophicus* was influential among the Vienna Circle which comprised of a group of philosophers, mathematicians and scientists in the 1920s who propounded this theory.
[794] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: The University of Chicago Press, [1962] 2012), xxxiv-v.

repudiated the notion there was always a direct correspondence between true statements and facts about the world. The implication is that even if an entire community agrees on a particular scientific theory, or in this case a doctrine, this does not mean that it equates to an actual fact.

Putman has also recently mentioned Kuhn within the context of theology.[795] Noting a parallel between scientific revolutions and hermeneutics, the role of rationality is "… an interpretative framework established by local, historically situated communities of knowledge for the purpose of theorization."[796] Putman also indicates that doctrinal development occurs between the two extremes of an "… authoritative corporate memory and its critical appropriation or analysis."[797] That is, there are social and historical aspects which play a part in determining the way doctrine is developed. And although "… distinctives of her [the theologian's] theological tradition inevitably color her [doctrinal development] process"[798], this "takes place in light of the limitations and/or advantages posed by her own view of a doctrinal topic."[799] Further, Putman believes that for Vanhoozer, the importance of community is more authoritative than the text itself, because it is the performance of the community that ultimately establishes the meaning and belief of the community.[800] Vanhoozer is not so naive as to believe that there will always be a single possible interpretation, and in fact it is this potential plurality that can allow for doctrinal development.[801] However, it must be remembered that this can also lead to the introduction of heresies and doctrinal corruption. Hence, not all interpretations are equal, but even then, these can ironically be rejected by the exposition and development of true doctrinal development.[802]

Perhaps the question comes back not to a theory of correspondence between facts and experience but rather what is the true source of authority by which all theories and experiences should be grounded upon. Although Vanhoozer does place Scripture above tradition, he does not relegate the latter as unimportant. He presents an interesting take on their respective roles: in his analogy of doctrine as drama, he posits that the Scriptures are the 'script' and tradition is the

[795] Rhyne R. Putman, *In Defense of Doctrine: Evangelicalism, Theology and Scripture.* (Minneapolis: Fortress Press, 2015), 230-1.
[796] *Ibid.,* 231.
[797] *Ibid.,* 233.
[798] *Ibid.,* 233.
[799] *Ibid.,* 233.
[800] *Ibid.,* 249.
[801] *Ibid.,* 309-10.
[802] *Ibid.,* 310-1.

performance.[803] In this context, tradition, rather than living in the past, is a performance which is made dynamic by a community.[804] Vanhoozer describes this in the following manner:

> Scripture may be self-interpreting, but it does not *perform* itself. The principles of general hermeneutics alone do not tell us how, for example, to relate Old and New Testament, or for that matter, how to bring Scripture to bear on contemporary bioethics. This is neither the thrust nor the intention of *sola scriptura.* On the contrary, *sola scriptura* stands for a certain church practice, a certain way of using Scripture in the church. Some have rushed to the conclusion, therefore, that it is a certain way of using the Bible, and not the Bible itself, that is authoritative. What ultimately counts is the performance, not the script.[805]

This apparent relegation or subjugation of tradition to Scripture may not be satisfactory to Roman Catholics. But Vanhoozer is a Reformed Presbyterian theologian, and to even suggest that tradition not only has a part to play in Christianity, but is also a necessary component to be played by the Church community, seems quite a remarkable concession in the context of the Reformed theological tradition. This is because Vanhoozer does not believe that affirming tradition in this manner downplays or lowers *sola scriptura*.

Recent literature on the development of criteria has reaffirmed the importance of a practicing community in the formulation of new teachings. Theologians like McGrath and Vanhoozer have stressed different aspects with regards to a community's role. McGrath believes that it is the communal facet that distinguishes doctrine from theology, while Vanhoozer maintains that the community is critical in the *performance* of the Scriptures. Thiselton also remarks that "… doctrine is not a matter of monologic discourse produced by a single person and addressed to individuals in abstraction from corporate worship and the life of the church."[806] Further, the role of the community does not exist in isolation from the need to balance tradition with development, and the way a text is interpreted.

[803] Vanhoozer does admit that these relative weightings may not be agreed to by everyone.
[804] Kevin J. Vanhoozer, *The Drama of Doctrine.* (Louisville: Westminster John Knox Press, 2005), 152-3.
[805] *Ibid.*, 152-3.
[806] Anthony C. Thiselton, *The Hermeneutics of Doctrine*. (Grand Rapids, Cambridge: W. B. Eerdmans, 2007), 21-2.

7.4 Final Remarks on Identifying Kuhnian Concepts in Some Contemporary Theories in Doctrinal Development Literature

Kuhn's *Structural Revolutions* was written over fifty years ago and applied to the way science progresses. Nevertheless, his ideas can be applied to the modern and contemporary literature on the development of doctrine. The tension between long-standing tradition and the need to develop new teachings, the interpretative method of a particular text and the importance of practicing communities have been identified as influential by theologians who seek to understand doctrinal development.

PART 3

OTHER POTENTIALLY BENEFICIAL MODELS

Chapter 8

Non-Kuhnian Models from the Philosophy of Science Applicable to the Development of Christian Doctrine

In the previous chapters there has been a focus on the application of Thomas Kuhn's ideas to the development of Christian doctrine. Terms like normal science, paradigms, anomalies, crises and revolutions have been shown to correspond at various points in Christian history to doctrinal development. However, there are limitations to how far these analogies can be applied. Here, the work of other philosophers of science, in particular Larry Laudan, are discussed. Laudan has a high regard for Kuhn: "I have chosen to deal with Kuhn's critique of methodology because it strikes me as possessing a great deal more prima facie plausibility, and to be more closely based on how science actually works, than the discussions of most of the other authors in this tradition"[807]. Yet there are some differences between Kuhn and Laudan. This chapter does not seek to downplay the benefits in utilising Kuhn's work, but rather aims to enhance, through other models from the philosophy of science, a person's ability to understand the way Christian doctrines originate, progress and the factors that can lead or determine their success or demise.

8.1 Conceptual Problems: Applications to Christian Doctrine

Conceptual problems were first thoroughly discussed by Laudan.[808] These types of problems have been discussed in theology by Van Huyssteen. He notes that the "notions of conceptual problems and problem-solving invoke a broader notion of rationality that ultimately

[807] Larry Laudan, *Beyond Positivism and Relativism.* (Boulder, CO: Westview Press, 1996), 89.
[808] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 45-69.

reveal the shared resources of human rationality in different and often very diverse forms of intellectual inquiry."[809] These are in contrast to empirical problems which are not as relevant to Christian doctrine as to the natural sciences. For instance, Laudan notes that in Copernican astronomy, critics were not disputing that its theories were inadequate in predicting the motions of celestial bodies. Instead, the issues were centred on how to incorporate these theories into the wider framework of assumptions about the natural world. From Laudan's explanation on the nature of conceptual problems, it does not appear to be the case that Copernicus' theories were merely a description for trying to make a new concept coherent within a greater paradigm. Rather, a theory has led to the formulation of new questions with regards to its foundations. Recalling the work of Isaac Newton, Laudan points out: "What troubled many of Newton's contemporaries ... were several conceptual ambiguities and confusions about its foundational assumptions. What was absolute space and why was it needed to do physics? How could bodies conceivably act on one another at-a-distance?"[810] For theology, Clayton notes this is the norm rather than the exception when he writes:

> The believer enters into a form of theoretical discourse, however tentatively and however strong his continuing commitment to the attitudinal aspects of his faith. As in other forms of theoretical discourse, here also various why-questions are formulated - why do I exist? Why did this experience occur? Why is the world the way it is?"[811]

Within the category of conceptual problems, they can be further subdivided into two categories. Let *T* be a theory so that:

1. When *T* exhibits certain internal inconsistencies, or when its basic categories of analysis are vague and unclear: these are *internal conceptual problems.*

2. When *T* is in conflict with another theory or doctrine, *T'*, which proponents of *T* believe to be rationally well founded: these are *external conceptual problems.*

Laudan, by touching upon Duhem and Quine's previously discussed hypothesis, mentions that some types of internal conceptual problems can lead to logical inconsistencies, e.g.

[809] J. Wentzel Van Huyssteen, *The Shaping of Rationality*. (Grand Rapids: W. B. Eerdmans, 1999), 168.
[810] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 46.
[811] Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion*. (New Haven and London: Yale University Press, 1989), 127.

it is impossible to test a single theory in isolation because of its underlying background assumptions. However Laudan mentions other types of internal conception problems, namely "… those arising from conceptual ambiguity or circularity within the theory."[812] A case where this may manifest itself in Christianity is in determining the authorship of the Scriptures. The doctrine of Biblical inspiration is the doctrine that the authors of the various parts of the Bible were led or influenced by God so that in effect the resulting writings may be considered the word of God. Millard J. Erickson remarks

> There is a dilemma which any theology (or any other system of thought for that matter) faces when dealing with its basic authority. Either it bases its starting point upon itself, in which case it is guilty of circularity, or it bases itself upon some foundation other than that upon which it bases all its other articles, in which case it is guilty of inconsistency.[813]

Arguably, the operation of a theologian or scientist within a paradigm must necessarily entail a type of circularity. Greg Bahnsen presents a defence for circularity in apologetics on the basis that it demonstrates coherence between the starting point and final conclusion with each other.[814] Commenting on original sin, and the fall of Adam and Eve, Bill Zuersher points out that it engages in circularity when he writes

> How could an all-knowing God be ignorant of what would someday become the Christian doctrine of original sin?... Apologists reply that perfect beings are precisely what their God had created. Before the fall, Adam and Eve were perfect in all of these ways. But here, the apologist is caught in the coils of circularity: If Adam and Eve were morally and mentally perfect, then they would not have succumbed to temptation and deceit. If they had been perfect, they would not have fallen.[815]

Kuhn might note that an atheist like Zuersher is considering the evidence according to his paradigm. On the other hand, a Christian with orthodox beliefs is merely interpreting the evidence with regards to his own paradigm. Such circularity does not mean a theory has to be discarded. Instead, one should admit upfront that it is present and this is acceptable using Kuhn's arguments. Rather than internal conceptual problems being a limitation, Laudan manages to

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[812] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 49.
[813] Millard J. Erickson, *Introducing Christian Doctrine* (Grand Rapids: Baker Academic, 2001), 65.
[814] Greg L. Bahnsen, *Pushing the Antithesis* (Powder Springs: American Vision, Inc, 2007), 124.
[815] Bill Zuersher, *Seeing through Christianity: A Critique of Beliefs and Evidence* (Bloomington: XLibris, 2014), Chapter 3.

describe a process whereby the possible inconsistencies or potential ambiguities present in a doctrine can be described.

For external conceptual problems, Laudan points to paradigms so that there is potential for theories to be in conflict with one another. There is a tension or incompatibility present which might indicate a clash of worldviews when: "… there is a logical inconsistency with another accepted theory, then we have vivid example of a conceptual problem."[816] However, Laudan explains that there are two other types of external conceptual problems.

The first is when there are two or more theories which are logically compatible, but jointly implausible. This occurs when two theories appear to be irreconcilable so that if one is acceptable then the other seems less plausible. Inherent in such a case, is the presence of a paradox. An example presented by Laudan is in trying to accommodate Newtonian physics with theories of physiology; in particular the assumption that various bodily processes were essentially caused by the mechanical processes of collision, filtration and fluid flow. Laudan writes: "They are consistent with Newtonian physics ... but it did seem highly implausible, given Newtonian physics, that a system as complex as a living organism could function with only a limited range of the processes exhibited in the inorganic realm."[817] In Christian doctrine, an example has been presented with the doctrine of the Trinity. In earthly terms, a son always comes after the father so that the father pre-existed the son. However the Trinity is different: although the son does the will of the father, they both coexist eternally. Another example present is in John Calvin's doctrine of predestination which declares that eternal life is foreordained for some and eternal damnation for others.[818] This doctrine is not universally accepted within the Reformed tradition for a myriad of reasons, such as that it diminishes human responsibility to respond to the gospel or that simply there is no Scriptural basis for it.

Generally speaking, the Christian faith is full of paradoxes. Recalling Kierkegaard and Hegel, Olson notes:

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[816] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 50-4.
[817] *Ibid.*, 52.
[818] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day.* (Grand Rapids: Zondervan, 2013), 174.

> For Kierkegaard, the truth that Jesus Christ was both truly God and truly human and yet one person is a logical contradiction and not a symbol of Hegel's metaphysical unity of divine and human being; nor is it a mere doctrine. It is a transforming truth of divine revelation that demands decision for or against Jesus Christ as Lord.[819]

More recently, Karl Barth was opposed to the "… identification of Christianity with a coherent system of doctrines."[820] He wrote "Christianity – as opposed to religion – is a relationship between the holy God who speaks beyond the world and the finite, sinful human who bows before mysteries that reason alone cannot anticipate, let alone understand."[821] According to Laudan, a second type of external conceptual problem exists when a new theory arises which is expected to reinforce an older, more established theory, but instead is merely compatible with it. Laudan points out that this is not a problem per se: weak relevance does not reveal the presence of conflict. However, it is a drawback and can delay the acceptance of a theory.[822] An example is in comparing the doctrine of justification with, again, the doctrine of predestination. Recall that justification is the doctrine that by the grace of God alone, through faith in Jesus Christ, a person is justified and saved. There is no merit or good works that can make an individual earn or deserve God's pardon; rather it is God's work alone that makes a person righteous. It forgives all the transgressions of the sinner, not just in the past, but for all sins. That person is now given the peace of God and is now in his household with all the benefits that are entitled to an heir and son of God.[823] The doctrine of predestination is the doctrine that God has chosen those who will be saved. It is not hard to see that these two doctrines are related, however, this relationship is understood differently for different Christian traditions. The Lutheran tradition agreed with the Reformed teachings of Calvin in respect of the doctrine of justification. Pelikan wrote:

> Reformed followers of John Calvin knew that they disagreed with the followers of Luther on many questions, but they recognised that all of them agreed on this doctrine as the foundation of the entire Reformation, in fact, the chief doctrine of

[819] Roger E. Olson, *The Story of Christian Theology* .(Leicester: Apollos, 1999), 576.
[820] *Ibid.*, 576.
[821] *Ibid.*, 576.
[822] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 53-4.
[823] Roger E. Olson, *The Story of Christian Theology.* (Leicester: Apollos, 1999), 391.

> Christianity and the chief point of difference separating Protestantism from Roman Catholicism.[824]

However, for predestination, agreement between the Reformed followers and the Lutheran tradition was not as forthcoming. Pelikan again wrote:

> Reformed theologians insisted that God had the right to choose whomever he pleased, since "without [grace] our will can accomplish absolutely nothing"... Lutheran theologians, in order to obviate the notion of an absolute and arbitrary predestination, taught that "we have been elected on the basis of [ex] our divinely foreseen faith, as this finally takes hold of the merit of Christ", and had also based reprobation on God's foreknowledge of unbelief; the question was a matter of lively interest among Roman Catholic theologians, too.[825]

Laudan notes several instances of sources for these conceptual problems in science. Intra-scientific difficulties arise when a plausible theory is incoherent with the assumptions about the world. Worldview difficulties emerge when a scientific theory is incompatible with other non-scientific beliefs. There is another type of difficulty which has not yet been considered, namely normative difficulties.[826] Laudan explains that this occurs in science when norms or methodology greatly affect research. He believes that perhaps these types of difficulties have been the major source of conceptual problems.

A solution to this might be found in Lakatos' ideas. He proposed a criterion by which methodologies might be compared.[827] He stated that "If a universal rule clashes with a particular 'normative basic judgment', one should allow the scientific community time to ponder the clash: they may give up their particular judgment and submit to the general rule."[828] Clayton also discusses Lakatos' works.[829] He describes three levels of discourse: He points out that history is the judge as to which is L_1, L_2 and L_3. The first level (L_1) accounts for all the ways scientists do

[824] Jaroslav Pelikan, *The Christian Tradition: A History of the Development of Doctrine, vol. 4. Reformation of Church and Dogma (1300-1700)* (Chicago, London: The University of Chicago Press, 1984), 139-40. The belief that the doctrine of justification was initially rejected by the Roman Catholic tradition. The *Joint Declaration on the Doctrine of Justification* signed in 1999 asserts that the Roman Catholic Church has believed this doctrine to hold since debated and discussed in the Council of Trent.
[825] *Ibid.,* 364-5.
[826] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 57-61.
[827] Imre Lakatos, *The Methodology of Scientific Research Programmes*. (Cambridge: Cambridge University Press, 1978), 131-6.
[828] *Ibid.*, 131.
[829] Philip Clayton, *Explanation from Physics to Theology: An Essay in Rationality and Religion*. (New Haven and London: Yale University Press, 1989), 55-6.

science. L_2 discusses proposals for the correct methodology of science as well as reconstructions of what constitutes the history of genuine science. It is at this level that historical facts are taken and normative judgments made as to which activities are rational. If L_1 can be split into the internal (science in its normative sense) and external (external to history and explained by social psychologists) then L_2 can be evaluated to see how much of L_1 is forced to be external. If L_2 is a methodology of science then L_3 is a meta-methodology so that all methodologies can be criticised on an L_3 level. In theology and the development of doctrine, the analogy is obvious: the manner in which exegesis is carried out by the reader can determine the types of doctrine a reader may hold to be true (L_1). At a more significant level (L_2), the different exegetical techniques can be discussed and analysed. The L_3 level then is concerned with the historiography of the development of doctrines. Küng's paradigm changes in theology only really touch upon the L_3 level and perhaps, the L_2 level but in a very light manner. The L_1 level is not discussed.

8.2 Distinguishing Theories from Research Traditions

The difference between theories and research traditions is linked with a distinction Küng made and has already been mentioned earlier. Küng delineated different types of paradigms: macro, meso and micromodels. Macromodels provided general solutions and were more akin to what Kuhn would describe as paradigms, while meso and micromodels were analogous to specific church doctrines and teachings. Clearly, some theories are more global and comprehensive than others. Laudan also makes this distinction and further expands on the concept.[830]

He notes that not all theories are the same and that the way to evaluate each of them is different. For instance, the theory of evolution or the kinetic theory of gases is different to quantum theory. They are evaluated differently and their level of specificity or generality is not the same. Laudan agrees here with Kuhn: it is these high-level theories that determine more specific scientific theories. This is notwithstanding the earlier case made for noting that the first steps in overthrowing a paradigm involve a specific doctrine or theory. This is not a contradiction: a macromodel determines the progress, but it seems that a key doctrine within that

[830] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 70-120.

macromodel being brought into question can lead to a Kuhnian revolution. Thus, these macromodels are key, and understanding their evaluation is paramount in grasping not only scientific progress, but also doctrinal development.

Laudan goes on to describe these larger theories as research traditions, which are essentially what Kuhn would label as paradigms. One of Laudan's key ideas is that "we should distinguish between at least two different sorts of propositional networks: theories can refer to very specific sets of related doctrines or to much more general sets of doctrines and assumptions."[831] This subtle categorisation of doctrines gives greater flexibility to assess the permanency, or lack thereof, between different doctrines. Laudan maintains that "every research tradition has a number of specific theories which exemplify and partially constitute it; some of these theories will be contemporaneous, others will be temporal successors of earlier ones."[832]

But one of the main differences with Kuhnian paradigms is that Laudanian research traditions are more fluid and dynamic than for Kuhn. For Laudan, "… each research tradition goes through a number of different, detailed (and often mutually contradictory) formulations and generally has a long history extending through a significant period of time. (By contrast, theories are frequently short-lived)."[833] Kuhn never fully explains the relationship between theories and a paradigm. Laudan, in criticising Kuhn's paradigms, notes that "it is very difficult to square the inflexibility of Kuhnian paradigms with the historical fact that many maxi-theories have evolved over time."[834] On the other hand, this may be not so much an objection to Thomas Kuhn but merely another perspective. For instance, the paradigm changes in theology that Küng outlines, would for Laudan perhaps constitute theories which have been replaced throughout the history of Christianity while Christianity is itself the "research tradition". In this regard, Laudan is merely inserting another resolution level so that in relation to macromodels, there are now flexible mega-macromodels, i.e. research traditions. But though these research traditions are flexible, there is a resilience to them which makes them difficult to be overthrown. And though these traditions are more malleable than what Kuhn might agree with, these are not to the degree that a Popperian position of falsificationism is advocated. Lakatos had a similar idea when he described

[831] J. Wentzel Van Huyssteen, *The Shaping of Rationality*. (Grand Rapids: W. B. Eerdmans, 1999), 170.
[832] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth.* (London: Routledge & Kegan Paul, 1977), 78.
[833] *Ibid*., 79.
[834] *Ibid.*, 75.

research programmes. He noted that a programme is not an isolated hypothesis or a conjunction of hypotheses but rather consists of a series of developing theories.[835]

Describing the development of Christian doctrine as occurring within an overarching research tradition may also aid with ecumenism in a manner which Kuhnian paradigms might not. A Laudanian research tradition naturally emphasises that which has remained and persisted rather than the differences or the conflicts which have led to changes. Hanson, in remarking on which criteria should be used for the development of doctrine, made the following comment regarding the use of Scripture: "[It] can and must be used as norm, but used with flexibility and breadth of understanding, and we must not flinch from some of the more disturbing consequences which flow from these principles."[836] Such a focus means that when discussions are entered between theologians, or even between ordinary Christians, across different denominations, there is "… a fundamental readiness to revisit judgments of the past ... They are engaged in a critical study of past developments in order to understand more clearly what was going forward and what might have been left behind or obscured from view, especially in moments of crisis or conflict."[837]

Laudan also describes the way research traditions may change. Remember that Küng neglected to mention that paradigm changes can often originally begin with a particular doctrine or teaching being challenged. Instead, it seemed Küng was implying that revolutions started with wholesale changes in the paradigm, brought about by anomalies which presumably occurred across a number of doctrines under that paradigm. Laudan believes that this is not the case. He lists two different ways in which research traditions evolve and change. The first is that there is "a modification of some of its subordinate, specific theories."[838] Laudan indicates that what keeps a scientist interested and what allows him to keep conducting research is not a loyalty to a specific theory but rather to a research tradition. In examining the motives of the likes of Martin Luther or Athanasius in their attempts to redefine the truth of Christianity, they were not attempts

[835] Imre Lakatos, *The Methodology of Scientific Research Programmes*. (Cambridge: Cambridge University Press, 1978),178-9.
[836] R. P. C. Hanson, *The Continuity of Christian Doctrine*. (New York: Seabury Press, 1981), 83.
[837] Catherine E. Clifford, "Reform and the Development of Doctrine: An Ecumenical Endeavor," *The Jurist* , **71** (2011): 47.
[838] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth.* (London: Routledge & Kegan Paul, 1977), 96.

at forging a new religion or rejecting their faith. Rather, as seen from their perspectives, they were efforts at being loyal to the teachings of the apostles and the scriptures. Laudan maintains, that what Kuhn and Lakatos would call a rejection of a research tradition, he merely calls the evolution of a research tradition. He does not deny that a research tradition can be overthrown, but unlike Kuhn and Lakatos, he believes this happens less often than might be believed.

Laudan anticipates an obvious objection: "… if a research tradition can undergo certain deep-level transformations and still remain in some sense the "same" tradition, how can one distinguish change within a research tradition as opposed to the replacement of a research tradition by another?"[839] Laudan answers this by noting that at any given time, there are some elements which are more fixed than others. These are the most characteristic aspects of the research tradition and to go outside of them is to also go beyond or outside that research tradition. This is very similar to the concept of a research programme's hard core, as proposed by Imre Lakatos.[840] However, there is a significant difference to be seen with Lakatos when Laudan writes, "the set of elements falling in this (unrejectable) class changes through time."[841] What Laudan seems to have done is combine both the ideas of Kuhn and Lakatos so that a hard core is not as hard as Lakatos would contend and a paradigm does not change as often as Kuhn would maintain. This idea allows for the possibility of a change within an overall framework that asserts continuity and holds a place for tradition and history. Implicitly, Lakatos also mentioned this and stressed the need for there to be a requirement of continuous growth. This was done by considering science as a battleground of research programmes rather than isolated theories. For Lakatos, this is what differentiates mature from immature science.[842] Mature science has a cohesion and resilience that is lacking in immature science. This macro view allows to better see this continuity in the history of science, and analogously, in the development of doctrine within Christianity.

An argument can be made that throughout the history of Christianity key aspects or ways of looking at or thinking about God have changed. The different epochs outlined by Küng can

[839] *Ibid.*, 99.
[840] Imre Lakatos, *The Methodology of Scientific Research Programmes*. (Cambridge: Cambridge University Press, 1978),110.
[841] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 99.
[842] Imre Lakatos, *The Methodology of Scientific Research Programmes*. (Cambridge: Cambridge University Press, 1978), 87.

then be considered as the times when these characteristics in the Christian "research" tradition have changed. These particular episodes in Christian history have led to a wide variety of Christian denominations which exist today. The effect of outlining research traditions in this manner is that it highlights the differences that have caused tension and conflict within Christianity, but also show the thread of continuity within Christian thought. The mistake of Kuhn and Lakatos, according to Laudan, was in

> … failing to see that the elements constituting this class [a paradigm or hard core] can shift through time. By relativising the "essence" of a research tradition with respect to time, we can, I believe come much closer to capturing the way in which scientists and historians of science actually utilize the concept of tradition.[843]

However, there is still the matter of how the immutable aspects of a "maxi-theory", as Laudan would call it, are determined. He declares that the reason for the stability of a research tradition is "its conceptual well-foundedness."[844] The core assumptions are continually being analysed, challenged and undergoing scrutiny accordingly. A key, rather unsurprisingly, is time. Laudan notes

> Some of these assumptions will, at any given time, be found to be strong, and unproblematic. Others will be regarded as less clear, less well-founded. As new arguments emerge which buttress, or cast doubt on, different elements of the research tradition, the relative degree of entrenchment of the different components will shift.[845]

This fluidity in a research tradition, which is in contrast to the distinct and hard paradigms or worldviews that Kuhn proposed, does not only extend to the frequency of revolutions but also to the embryonic stages of a paradigm. Laudan avoids labelling a research tradition as "immature" but instead believes time will iron out some of the ambiguities and vague concepts. This should not be mistaken for new elements being continually added or introduced but instead it is more likely that there is a recombination and a reprioritisation of the ingredients already present in the research tradition.[846]

In Christian history, there are numerous examples that demonstrate this concept of conceptual well-foundedness. The doctrine of the Trinity clarified the ontological personhood of

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[843] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth.* (London: Routledge & Kegan Paul, 1977), 100.
[844] *Ibid.*,100.
[845] *Ibid.* 100.
[846] *Ibid.*, 104.

God the father, Jesus the son and the Holy Spirit. It affirmed that they are all one God but with different roles, and distinct from one another. It might be argued that evidences of the Trinity are clearly present in the Scriptures, but the doctrine itself resolved any doubt and refuted the Arian heresy.

Again, Laudan does not suggest that in order for a research tradition to be viable or worthy of research it needs to reach a certain level of maturity. For *Filioque*, which was the reason for the controversy that split the West and Eastern Churches, still exists today and has not been resolved. The West believes that the Holy Spirit is from both the Father and the Son, while the East maintains that the Holy Spirit proceeds from the Father. The point that Laudan emphasises is the continuity of a research tradition and its unbrokenness. Laudan does not envisage or stress a particular end-point, but rather it is the evolving nature of research traditions which he aims to describe and define.

8.3 Commensurability of Paradigms

One of the criticisms levelled at Kuhn is the idea of incommensurable paradigms. It is perhaps unduly harsh to label this as a shortcoming of Thomas Kuhn. He has been labelled a relativist because he has been attributed with asserting that rival paradigms cannot be compared with one another. As Hoyningen-Huene points out, this is not true, but Kuhn's original language in *Structures* does not help and can easily lead the reader to infer that successive paradigms cannot be put side-by-side in any meaningful way. Kuhn remarked, "… like the choice between competing political institutions, that between competing paradigms proves to be a choice between incompatible modes of community life."[847] Kuhn went into more detail later in the book by describing the nature of the problems which are covered by a new paradigm when he wrote

> As the problems change, so, often does the standard that distinguishes a real scientific solution from a mere metaphysical speculation, word game, or mathematical play. The normal-scientific tradition that emerges from a scientific revolution is not only incompatible but often actually incommensurable with that which has gone before.[848]

[847] Thomas Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago, London: The University of Chicago Press, [1962] 2012), 94.
[848] *Ibid.*, 103.

The term commensurable is not explicitly defined by Kuhn, but he did hint that it seems to be a problem of semantics. Terms and definitions have changed and now have completely different meanings to what they once had. He stated

> Proponents of different theories (or different paradigms, in the broader sense of the term) speak different languages - languages expressing different cognitive commitments, suitable for different worlds. Their abilities to grasp each other's viewpoints are therefore inevitable limited by imperfections of the processes of translation and of reference determination.[849]

This problem of meaning and semantics does not say anything about whether successive paradigms are able to be compared or not. Hoyningen-Huene has indicated that this is possible but not before acknowledging that there have been misunderstandings.[850] He spends some time debunking the notion that paradigms are incomparable by noting that "incommensurable theories target roughly the same object domains."[851] The point that Hoyningen-Huene makes is that even though the theories are incompatible this does not mean they cannot be contrasted, because the object of enquiry, the matter at hand which needs to be settled, has not changed. This is related to the problem of theory-choice. Laudan expressed this when he wrote "Because each has its own internal rationale and integrity, no meaning can be attached to the suggestion that one scheme is more (or less) rational than another."[852] He also believes that comparison is certainly possible even if there does not exist a mechanism which translates the language used in one paradigm to another. Observations might be theory-laden (that is, the same observations by two different scientists might lead to two different assertions), but this does not mean comparisons are impossible.[853]

If Kuhn believed that paradigms can be compared, then it is not clear why he did not elaborate on this in any great detail. In Christianity, the question is by what measure a new paradigm is doing better than the old paradigm. For Kuhn, the answer is simply the level of problem-solving. A new paradigm emerges because it is able to accommodate the anomalies that were present in the old paradigm, and at the same time incorporates the results obtained

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[849] Thomas S. Kuhn, *The Essential Tension*. (Chicago, London: The University of Chicago Press, 1977), xxii-iii.
[850] Paul Hoyningen-Huene, *Reconstructing Scientific Revolutions.* (Chicago, London: The University of Chicago Press, 1993), 207.
[851] *Ibid.*, 219.
[852] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth* .(London: Routledge & Kegan Paul, 1977), 141.
[853] *Ibid.*, 142. A discussion of Laudan's basis for rational theory choice is soon provided.

previously. The doctrine of justification as expressed Martin Luther did not throw away everything that the Roman Catholic Church had done (the fact that Lutherans have kept many of the liturgical practices are a testament to that), but rather Luther sought to answer an unresolved problem; namely: "How does one get right with God?" Similarly, the doctrine of the Trinity sheds light on the personhood of the triune God. This was not to say that previously everything had been wrong but rather it solved a recently discovered problem. Even the Enlightenment, which pushed back Christianity from being so involved in facets of society, suggests that politics and culture in Europe was predominantly a quest to advance the potential inherent in humanity which was being hindered by the established religion hierarchy of the time.[854]

Laudan also discusses these issues and attempts to provide a rational basis for theory choice. He prefaces this by listing two criteria for the evaluation of research traditions: adequacy and progress.[855] By adequacy, he refers to how effective the latest theories within a research tradition are in solving problems. By progress, the question being posed is whether the research tradition has over time increased or decreased the problem-solving effectiveness of its components. It is here that Van Huyssteen claims Laudan conflates the line between scientific rationality and progress. For Laudan, "it is impossible to talk about the rationality of science if we do not focus on the fact that scientific theories are usually attempts to solve empirical or conceptual problems."[856]

The doctrines that have been discussed here have solved problems Christianity had not considered in the past but which now needed to be resolved. At the time, it was believed that the decisions made were guided purely by reason and clear thinking. Yet Kuhn believed that theory choice is not truly governed by any rules of logic or driven by any kind of rational process. Rather, there are non-scientific factors which determine the worldview for all data or experiences to be interpreted.

Another important factor Laudan expands upon is the context by which research traditions are evaluated. Again, he lists two different contexts: that of acceptance and that of pursuit. The context of acceptance is defined as accepting a theory or group of theories as if they

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[854] Jaroslav Pelikan, *A History of the Development of Doctrine, vol. 5, Christian Doctrine and Modern Culture (since 1700).* (Chicago, London: The University of Chicago Press, 1989), 60-1.
[855] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 141.106-7.
[856] J. Wentzel Van Huyssteen, *The Shaping of Rationality* (Grand Rapids: W. B. Eerdmans, 1999), 167.

were true. That is, they are in fact taken as axiomatically true, or presupposed as true. Laudan remarks that "… the choice of one tradition over its rivals is a progressive (and thus a rational) choice precisely to the extent that the chosen tradition is a better problem solver than its rivals."[857] This idea is the same as that of Lakatos, who noted that a theory is theoretically progressive if each new theory has some excess empirical content over its predecessor.[858] Thus, theory choice is strictly geared towards problem-solving and the ability to provide answers to open problems or questions. In some cases, this promise of greater empirical content may lead to the choice of a less favoured research tradition or programme. Lakatos noted: "Scientific progress is increased awareness of ignorance rather than growth of knowledge."[859] Laudan asserts that the context of pursuit describes the notion that sometimes scientists work on theories for reasons other than their acceptance. Recalling examples like Copernicanism and early psychoanalytic theory, Laudan notes that these have often been pursued before they have been accepted as true.

It is difficult to recall theologians delving into doctrines they have strongly disagreed with because those same doctrines had greater problem-solving capacity than those teachings which they believed to be true. However, in Christianity, this somewhat seems to parallel Newman's third characteristic for distinguishing orthodoxy from heresy, namely the power of assimilation. It was noted earlier that Newman believed one of the features of orthodox doctrine is its ability to adopt external thoughts or ideas. One instance already mentioned is Pannenberg's use of Popperian falsificationism to formulate Christian propositions as hypotheses which can be empirically tested. A more startling example is perhaps that provided by Frank Morrison.[860] Morrison illustrates Laudan's words with respect to theology; namely "a scientist can often be working alternately in two different and even mutually inconsistent, research traditions."[861] Morrison was sceptical about the resurrection and crucifixion of Jesus. In fact, he set out to write a paper to debunk what he considered a myth, but became so convinced of the veracity of Jesus'

[857] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 109.
[858] Imre Lakatos, *The Methodology of Scientific Research Programmes*. (Cambridge: Cambridge University Press, 1978), 33.
[859] *Ibid.*, 155.
[860] This was a pseudonym; his real name was Albert Henry Ross.
[861] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 110.

accounts that he wrote a book detailing his analysis and findings.[862] In this regard, Morrison researched an area which depicted a series of events he clearly did not believe had occurred in order to align it with his own "research tradition", namely scepticism. He believed that by examining in close detail the events of Jesus' death and eventual resurrection, any lingering doubts regarding their veracity could finally be put to rest. Laudan notes: "We realize that scientists can have good reasons working on theories that they would not accept."[863] This is not only a recent phenomenon either: it has already been discussed how apologists in early Christianity used Greek philosophy to defend or bolster the claims of the Christian faith.

Laudan presents a view of switching from one research tradition to another which is far less abrupt than what Kuhn believed to be the case. Even though some of the central tenets of a research tradition can change, this does not mean there is a discontinuity. This is because the boundaries for what constitutes a research tradition are much more nebulous than what would be the case for Kuhnian paradigms. Therefore, under Laudanian terms, it is less likely for there to be a break of tradition. Hence, there may be disagreements as to what constitutes the core, but because there is still agreement about the research tradition, incommensurability is far less likely to occur.

8.4 Competing or Successive Paradigms

This section naturally follows on from the previous one, as the focus is still on the way a paradigm might relate with another paradigm. However, the question is now whether they are competing or if instead, they are successive. If there is competition among different paradigms this suggests that there might exist more than one at any given time. This might not be the case if changes in paradigms preclude the existence of more than one predominant paradigm (or Lakatosian research programme or Laudanian research tradition).

For Thomas Kuhn, paradigm changes are successive. When normal science breaks down due to the presence of anomalies then this leads to a crisis. There is a search for another

[862] Frank Morrison, *Who Moved the Stone?* (Grand Rapids: Zondervan, 2002).
[863] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 110.

paradigm and when this is deemed suitable there is usually a transitionary period leading to the newcomer's eventual dominance. Kuhn pointed out:

> During the transition period there will be a large but never complete overlap between the problems that can be solved by the old and by the new paradigm. But there will also be a decisive difference in the modes of solution. When the transition is complete, the profession will have changed its view of the field, its methods, and its goals.[864]

Kuhn believed there is only really one time for the existence of a number of ways of doing science without any real consensus in the community. This is during the pre-theoretical period which is "marked by frequent and deep debates over legitimate methods, problems, and standards of solution."[865] Lakatos did not agree with Kuhn and, implicitly at least, believed that there are rivalries between paradigms. However, he did appear to believe that eventually one research programme would win and the determining factor for that success would be empirical progress. Lakatos noted that: "If two teams, pursuing rival research programmes, compete, the one with more creative talent is likely to succeed – unless God punishes them with an extreme lack of empirical success."[866] Though there is a subtle difference between Kuhn and Lakatos, the point appears to be the same: there can only be one ruling paradigm and rivals or competitors are soon vanquished due to their lack of success. The requirement for a new research programme to enter the fray is that it must at least be able to explain the 'old facts'. It must do as well as its current older rivals otherwise it should not even be considered. It is worth pointing out that what Lakatos suggested here for the progress of science, is that it is normative rather than prescriptive. He explained the way science should be rather than the way it currently is.[867] When a new research programme does arrive, Lakatos did not believe that it has to produce novel results immediately. It may take a long period of time before new results emerge. Lakatos pleaded for patience at this point:

> All this suggests we must not discard a budding research programme simply because it has so far failed to overtake a powerful rival ... As long as a budding

[864] Thomas Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago, London: The University of Chicago Press, [1962] 2012), 85.
[865] *Ibid.*, 48.
[866] Imre Lakatos, *The Methodology of Scientific Research Programmes* (Cambridge: Cambridge University Press, 1978), 99.
[867] Greg Peterson, "The Scientific Status of Theology: Imre Lakatos, Method and Demarcation," *Perspectives on Science and Christian Faith* 50 (March 1998): 22-31.

> research programme can be rationally reconstructed as a progressive problemshift, it should be sheltered for a while from a powerful established rival.[868]

He went on to say that within this moratorium, experiments are carried out to help refine a theory and unearth any underlying assumptions present. However, the difference with Kuhn here is quite profound: Lakatos stated that rival research programmes do not deal with the same object domain. This is in disagreement with Hoyningen-Huene who asserted that despite Kuhnian paradigms being incommensurable, they still worked within the same object domain. Laudan also partly disagreed with this Kuhnian notion. He writes:

> Kuhn has been misled by his discovery that some empirical problems are not jointly shared between different traditions and paradigms (which is certainly true) into believing that no problems are identical. The generalized thesis of problem incommensurability is as perverse as the limited thesis of partial non-overlap is profound.[869]

Lakatosian research programmes are more circumspect to start with, but as they progress they will encroach in each other's territory. In those situations, there might be a major crucial experiment to settle the matter.[870] The odd failure is tolerated, and at times overcome, due to the appearance of successive versions put forth. Laudan is more specific and notes that it is exactly the presence of some shared problems between competing research traditions that allow for an effective assessment of these paradigms.

Lakatos and Laudan both emphasised the nature of the inherent tension between paradigms and how they are resolved. Laudan believes that Kuhn underestimated the commonality between paradigms and the problem space that they may share. In doing so, he underplayed their rivalry. Again, this is clearly demonstrated in Küng's paradigm changes: while neatly delineating the different stages of Christian theology in history, the reader can be left with the impression that the transition from one paradigm to another was less polemical than what actually was the case.

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[868] Imre Lakatos, *The Methodology of Scientific Research Programmes*. (Cambridge: Cambridge University Press, 1978), 70-1.
[869] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 145.
[870] Imre Lakatos, *The Methodology of Scientific Research Programmes*. (Cambridge: Cambridge University Press, 1978), 71.

Laudan also makes some interesting comments regarding the progress and competition of paradigms in the non-scientific disciplines. But, again, for Laudan, progress has to be linked to rational decision-making. Van Huyssteen writes: "At this point Larry Laudan's admonition to scientists and theologians comes to mind: unless we can somehow articulate criteria for choice between research traditions, we neither have a theory of rationality, nor a theory of what progressive growth in knowledge should be."[871] Of particular relevance is Laudan's discussion of theology and what research traditions look like there. He notes that "it is possible and appropriate to talk of progress and rationality in the nonsciences."[872] However, he believes that this has not been carried out as well as in the sciences. Thus, the question is one of degree rather than there being a qualitative difference with the natural sciences. Furthermore, the nonsciences, and likewise the sciences, both have conceptual and empirical problems. The problem in recognising this is the "simplistic identification of [scientific]) rationality with experimental control and quantitative precision."[873] For instance, the problem of evil discussed earlier, is in effect, an empirical problem. Laudan writes:

> Many theological doctrines have been devised largely to deal with this seeming empirical anomaly ... On one level, that theology makes certain historical claims about the existence of persons and the occurrence of events. At another level, Judeo-Christian theology makes claims about the experiential effects of "true belief" on believers. These claims are in principle, testable within the realm of experience.[874]

He also discusses the issue of relativism and subjectivity in the non-scientific areas. Believing this might be possible, he writes: "If one becomes an empiricist, or idealist, or a Trinitarian, or a socialist, the decision (so it is claimed) is entirely arbitrary. None of the positions can be "proven" true or false …"[875] However, he also notes that even though some of this criticism is with merit, this does not necessarily have to be the case. One of the examples that Laudan cites is the choice between an atheistic research tradition and a theistic one. According to Laudan, the way to determine which research tradition triumphs should be based on which is a better progressive problem solver. Of course, the only way by which this can be

[871] J. Wentzel Van Huyssteen, *The Shaping of Rationality*. (Grand Rapids: W. B. Eerdmans, 1999), 266.
[872] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 191.
[873] *Ibid.*, 191.
[874] *Ibid.*, 190.
[875] *Ibid.*, 192.

determined is if they both share the same object domain. However, the issue of overlap is clear: if the problem in question is not substantial, then proponents for each research tradition are free to choose their core as they see fit. This is in some agreement with Lakatos, since Laudan believes continuities in research traditions are far greater than what Kuhn maintained because one can allow for changes in the hard core (to use Lakatosian terminology).

But a similar problem is also potentially found even when the object domains are the same, though multifaceted. For instance, the object domain of the heliocentric models versus the object domain of geocentric models were the same. There are two possible reasons for this:

1) Their cores might differ and so the pressing problems that each is trying to answer will also be different; or

2) Some of the pressing problems may have suitable solutions for both research traditions.

This again touches on Laudan's earlier description of some theories which are plausible on their own, but are jointly implausible.[876] For instance, the reasons a person or group of people choose to hold atheist beliefs might not be because they believe that God does not exist. It could be because the history of Christianity, such as the Crusades or terrorist acts with an underlying religious element, have discouraged a person from having anything to do with belief in God. Or, the death of a loved one might have led to the conclusion that if God existed, he would have prevented such a tragedy. Note that for a theist these are also relevant questions, but either they are not so pressing or they are sufficiently explained by belief in God. In this case, the death of a relative was God's will and terrorist acts do not have God's approval. Similarly, for some believers, the questions which having a belief in God solve, include the need for a purpose in their lives, or the need for a personal God that helps them with their weaknesses. Again, these are questions that atheism also deals with but they might not be as central as the reason or reasons they reject the existence of a God - or they can be explained; a purpose is found which makes the atheist happy and does not involve the existence of a God; or they do not need a God because they do not perceive themselves to be weak.

[874] *Ibid.,* 192.

Similar comparisons can be made with respect to disagreements in Christian doctrine, recalling examples listed previously. In the Reformed tradition, Calvinism stresses the sovereignty and righteousness of God in all the affairs of creation, and Arminianism emphasises the responsibility of people to respond to the call of the gospel and believe. Arguably, their object domain is the same: for sinners to repent and believe and have faith in the sovereign God of the Bible. But clearly they each emphasise a different aspect on the gulf between human beings and God. Here, it could be argued their cores are different.

Another example noted earlier is the doctrine of justification. Although the Lutheran and Roman Catholic traditions have come to some mutual agreement regarding the doctrine of justification, for a very long time, each disagreed on how humanity, in its fallen state, could be made right with God. Contrary to Kuhn, a case can be made for the possibility of rival research traditions competing. Thus, if Laudan overplays the rivalry and competitive nature of research traditions (or paradigms), then Kuhn certainly underplayed it.

8.5 Authority, Tradition and History

The influences of tradition and history have been discussed so far at various instances on the development of doctrine, while the question of authority has only been briefly touched upon. For authority, the issue is whether there is a body of people or an institution with the power to decide what constitutes a legitimate doctrinal development. The notion of authority is not as important in the natural sciences and it is hence not surprising that Kuhn did not discuss it in detail. However, in Christianity, the topic of authority is strongly interconnected to tradition and history. All Christians hold there to be some authority greater than them, with all followers of Christ professing to submit to the authority of God. The controversy is whether there is also a requirement to spiritually submit to an earthly authority. The basis for such an authority is intricately linked to the history of Christianity and it has been perpetuated and passed on through tradition.

Gonzalez has written on the link between authority and tradition.[877] He points out that during the Middle Ages, tradition came to be regarded with increased reverence. It was during that time that reverence for oral tradition was first claimed. There was also an emphasis on the scholastic method which stressed "a strong sense of the authority of tradition and antiquity."[878] For the Reformation movement and Protestantism in general, the issue was not so much a battle of whether there should or should not be an authority but rather who or what the authority should be: Is authority in the oral tradition on a par with the authority of Scripture?[879] Subsequently, authority has played a very important role in the establishment of doctrine, such as the doctrines of original sin, the Trinity and justification. In the case of the doctrine of original sin, the dispute between Augustine and Pelagius took three councils for the matter to be resolved: the Council of Carthage (418), the Council of Ephesus (431) and the Council of Orange (521). The doctrine of the Trinity was discussed in the Synods of Alexandria (c.317) and Antioch (325), as well as the Council of Nicaea (325). The doctrine of justification is perhaps the clearest case of the impact of authority in the development of doctrine. Unlike the doctrines of original sin and the Trinity, there was no universal agreement in the way justification should be defined. The Roman Catholic Church, at the time, perceived that Martin Luther sought to undermine the Church Magisterium. The Church's response was as strong as it was predictable, and the Council of Trent repudiated Luther's doctrine of justification, though it did not manage to halt or prevent the Protestant movement.

Though science itself does not appeal to authority in the same manner as Christianity does, insights from the philosophy of science can still be used to better understand this unique aspect of Christianity.[880] Polanyi noted that scientific authority is established between scientists, not above them. Although, there is a scientific authority of the lay public, a novice who becomes an independent scientist then becomes part of that authority and responsible for that authority, while at the same time also submitting to it.[881] Laudan's work in this area is the most comprehensive in the philosophy of science. He defines the 'tradition' as consisting of "historical

[877] Justo L. Gonzalez, *A Concise History of Christian Doctrine.* (Nashville: Abingdon Press, 2005), 189-206.
[878] *Ibid.,* 197.
[879] *Ibid.,* 202-3.
[880] This needs to be qualified: scientific authorities such as editorial boards of journals, or bodies like the World Health Organisation (WHO) or the Intergovernmental Panel on Climate Change (IPCC) clearly do exist. However, in Christianity, the importance and impact of authority appears to be more obvious, direct and transparent.
[881] Michael Polanyi, "The Republic of Science: Its Political and Economic Theory", *Minerva*, **1**, (1962):59.

achievements in the discipline that are regarded as landmarks and benchmarks."[882] In order for an achievement to qualify as part of the tradition, it addresses a central problem within the field and offers a solution or solutions that are relevant to the discipline. However, this then means that traditions can undergo change and not necessarily remain in a fixed state. The central questions which were once core in a particular time and place might change or transform the tradition. Laudan recognises this and notes that although a research tradition has certain permanence, theories do not, so that "some of these theories will be contemporaneous, others will be temporal successors of earlier ones."[883] Thus relativism is avoided: the Christian tradition does not change and "has a long history extending through a significant period of time. (By contrast, theories are frequently short-lived.)"[884] It has already been noted that one of the drawbacks of Küng's work when he describes the seven paradigms in the history of Christianity, is that he does not address the nature of doctrinal development, namely, the conflicts and the factors external to Christianity, that can be influential. Küng also seems to miss an overarching metaparadigm; the Christian tradition. Such an omission means that the reader is left wondering what it is that all these epochs and paradigms share.

It is perhaps harsh to level such an oversight at the hands of Kuhn, and then by extension, Küng. After all, Lindbeck does subtly hint that the Christian faith is in itself a paradigm.[885] Kuhn was perhaps too eager to highlight the differences between paradigms at the expense of what they shared in common. He wrote "Under normal conditions the research scientist is not an innovator but a solver of puzzles, and the puzzles upon which he concentrates are just those which he believes can be both stated and solved within the existing scientific tradition."[886] However, Kuhn noted in somewhat paradoxical form that it is this ingrained focus on tradition-reinforcing work that leads to revolutionary change because "… the continuing attempt to elucidate a currently received tradition has at last produced one of those shifts in fundamental theory, in problem field, and in scientific standards to which I previously referred as scientific

[882] Larry Laudan, *Beyond Positivism and Relativism.* (Boulder: Westview Press, 1996), 146.
[883] Larry Laudan, *Progress and Its Problems: Towards a Theory of Scientific Growth*. (London: Routledge & Kegan Paul, 1977), 78.
[884] *Ibid.*, 79.
[885] George A. Lindbeck, *The Nature of Doctrine.* (Philadelphia: The Westminster Press, 1984), 130-1.
[886] Thomas S. Kuhn, *The Essential Tension*. (Chicago, London: The University of Chicago Press, 1977), 234.

revolutions."[887] This is the key point that Kuhn might have overlooked: it is this same attempt at trying to shed light and further progress an existing tradition that leads to a change in theory. But as Laudan notes, a change in theory does not necessarily mean a change in tradition. Kuhn did not acknowledge that there are different levels of complexity existing within a paradigm, and even within theories. Otherwise he would have realised that change can easily coexist within a tradition that has been long-standing. The role of tradition should not be undermined. As Van Huyssteen stated, "… the primary task of the critical theologian is to examine the tradition, not just repeat it, and through critical examining the tradition to allow the present to be reshaped more closely along the lines of what the tradition truly stands for."[888] It is here that Laudan offers more help.

It has already been said that for Laudan, research traditions do not change as often as Kuhnian paradigms. Laudan also maintains that these research traditions have a Lakatosian-type core. However, the difference is that while there is a core, the elements within that core can change. Unlike a Lakatosian research programme or a Kuhnian paradigm, this does not mean the research tradition has been replaced, merely that it has changed. Additionally, it has been discussed in much detail that what counts as relevant in a research programme, research tradition or paradigm is not determined through an appointed group of people whose authority is unquestioned. While in science, authority is either depicted by Popperian falsificationism, Lakatosian research progress or the ability of a paradigm to adequately explain anomalies, the locus of that authority does not reside with any person per se.

This cannot be said to be true for the development of Christian doctrine. Note that the development of doctrines such as the Trinity and original sin were finally established through Councils called in the early Church. Authority has also played a role at the macro level, though not always resulting in a benefit to Christianity. The Enlightenment paradigm described by Küng was at least partly prompted as a reaction to the excesses and repressive nature of the Roman Catholic Church. Woodbridge and James devote an entire chapter titled "Christianity and the

[887] *Ibid.*, 234.
[888] J. Wentzel Van Huyssteen, *The Shaping of Rationality.* (Grand Rapids: W. B. Eerdmans, 1999), 254.

Question of Authority".[889] The authors write that: "… from the late sixteenth century until deep into the eighteenth century, a number of scholars picked up intellectual cudgels and sparred with each other over a key question: What constitutes the authority or warrant for establishing the "truth" of a matter?"[890] Authority in that time took on a variety of forms, including the divine right of monarchies where emperors across Europe claimed their autonomous right to rule as God-appointed.[891]

In addition, the effects of the Reformation were still being felt across Europe. The Roman Catholic Church had its authority seriously challenged for the first time. It prompted the Roman Catholic Guillaume Baile to note: "Are all things necessary for our salvation found expressly in Scriptures? No. It is for this reason that Scripture send us back to Tradition, some of which being divine have as much authority as if they were written."[892] However, Protestants believed that the Bible should serve "as the final judge in theological controversies."[893] There was even disagreement regarding which version of the Bible is the right one between Protestants and Catholics.[894]

Also, the authority of Christianity itself was challenged as the scientific revolution sought to increase the authority of science. Although at times it looked to defy the established Roman Catholic Church's role in people's lives, some scientists who professed a Christian faith also saw advances in science as proof of God's existence, where natural law could be integrated with divine revelation.[895] Finally, the importance of authority in Christianity did not end in the 17th century, which is the ecumenical paradigm that Küng lists as the one currently dominating. This is because this agreement is due to consensus having taken place among the heads of different denominations including the Roman Catholic Church, Eastern Orthodox Churches and Lutheran World Federation. Again, this is in stark contrast with the natural sciences where authority is at best tacit, if existent at all.

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[889] John D. Woodbridge and Frank A. James III, *Church History, vol. 2, From Pre-Reformation to the Present Day.* (Grand Rapids: Zondervan, 2013), 315-355.
[890] *Ibid.,* 315.
[891] *Ibid.,* 319-23.
[892] *Ibid.,* 329.
[893] *Ibid.,* 329.
[894] *Ibid.,* 330-1.
[895] *Ibid.,* 337.

8.6 Final Remarks on Other Non-Kuhnian Models from the Philosophy of Science Applicable to the Development of Doctrine

This chapter has sought to apply theories from other philosophers of science as an aid to understanding how Christian doctrine develops. Alternative ideas have been shown to compliment and even correct those of Kuhn, thereby contributing to a fuller understanding on the nature of doctrinal development. Key concepts by Larry Laudan, namely conceptual problems, distinguishing theories from research traditions, paradigm commensurability, whether the paradigms themselves are competitive or successive, and the role of authority and tradition, can be applied to this area of Christian study. By demonstrating applications to specific doctrines in Christianity, as well as the way these ideas differ from Laudan's contemporaries, it is hoped that a greater awareness of different aspects influential to doctrinal development, can be gained.

Conclusion

This thesis describes applications of models from the philosophy of science, in particular the work of Thomas Kuhn, to the development of doctrine. John Henry Cardinal Newman arguably gave the first comprehensive treatise on the development of doctrine. He wanted to defend Roman Catholic theology while at the same time criticising Protestant thought, and maintained that Christian doctrine advances and emerges in a steady and organic manner. According to Newman, corruptions do not last and are eventually discarded.

Newman's thoughts have not gone unchallenged. His detractors believe that Christian doctrine can change and emerge through crisis and conflict. Contemporary doctrinal development literature discusses the importance of considering context in understanding the development of doctrine. They note that influences from society, politics, tradition, history and interpretation play an important part in how doctrine develops. That is, it is not merely the Scriptures, or even tradition which play a determining factor in establishing Christian doctrine. A potential objection in affirming contextual approaches as an adequate means for explaining the development of doctrine is that this opens the door to relativism. In other words, doctrinal development is simply guided by the current mood in a particular time and within a given place. Doctrine would transform to suit a given situation and not because there is a solid foundation in place for this development.

Philosopher of science, Karl Popper, assumed that science progresses in a steady and linear fashion. He believed that it was guided purely by reason and rationality. However, over the last fifty years, there have been new theories from the philosophy of science that have challenged this idea. The most prominent among these is that of Kuhn. He proposed that for long periods of time, normal science steadily permits the progress of new theories and hypotheses to be tested. This takes place within a paradigm conducted by a scientific community of practitioners. Within normal science, puzzle-solving takes place. Problems originate within a specific paradigm and rather than seek ground-breaking or extraordinary advances, practitioners aim to make safe and steady progress. A paradigm sets out the assumptions and presupposed results upon which all those who seek to engage in a particular field agree from the outset, and thus constrain potential

avenues for new results. Although in this stage progress is steady and cumulative, it does not preclude the existence of anomalies or unexpected results which do not accord with the paradigm. On occasions, when enough anomalies are accrued, these can lead to the search for new paradigms which are better able to explain these unexpected results.

If a suitable new paradigm is found after undergoing a period of "crisis", this can lead to a revolution. In order for this revolution to take place, new "converts" must be willing to take up its cause and progress the new fledgling paradigm. A revolution not only brings with it some discord and disagreement within the community, but also stresses the notion that the emergence of a new paradigm was at one time unexpected and not envisioned. Implicitly, rational thinking and objectivity did not see the death of the old paradigm coming and thus indicate that a revolution is not the norm. These are not events that occur frequently, but when they happen, the effects are long-lasting.

It is debatable whether similar revolutions in Christian thought have been beneficial for the church. The development of doctrines has allowed for greater understanding and advancement in Christian thought. For instance, it is unthinkable nowadays to believe that there would be any rejection the doctrine of the Trinity. Alternatively, there is an argument that having so many denominations hinders one of the key messages of Christianity: to love and live peacefully with fellow brothers and sisters. Often, due to the nature of revolutions within Christianity, this message has been obscured.

Analogously, in the philosophy of science, the contrast between Popper and Kuhn could not be greater. Imre Lakatos sought to take up a mediating position between those two extremes. Describing scientific work in terms of research programmes, Lakatos described the concept of a hard core which is similar to a Kuhnian paradigm. For Lakatos, there is also an auxiliary belt where all the anomalies reside until they can be resolved or a new hard core found. The core itself can be progressive or degenerative according to its problem-solving ability. More recently, Larry Laudan described scientific progress in terms of research traditions. Perhaps more than any other philosopher of science, he aimed to address some of the gaps or objections present in Kuhn's theories. Thus, the application of Kuhn's work to help describe the way doctrine develops should not be taken as all-encompassing and as being a perfect fit. Rather, Kuhn's ideas

have been shown to be very useful for theology without precluding the use of theories from other philosophers of science to assist in understanding doctrinal development.

Three well-known doctrines where Kuhn's theories can be applied are: the doctrine of original sin, the doctrine of the Trinity and the doctrine of justification. In all three cases, these doctrines arose because of deliberation or discussion. A heresy or even a new idea appeared to be gaining a foothold within certain sections of the church. This prompted theologians and ruling authorities within Christianity to take action. Church councils were established and debates held so that proclamations setting out the church's official position could be clearly spelt out. In some cases, this was not enough. Too many disagreed with the church's final stance thereby causing a schism. At times, there was room for two ruling paradigms to exist. Admittedly, "converts" did move from the old to the new paradigm, but this was not enough to result in the demise of the pre-existing worldview. For instance, the East and West went their own ways after disagreeing on whether the Holy Spirit proceeds from God the Father or from both God the Father and Jesus Christ. In the end, whether the old paradigm survived alongside with the new or not is of somewhat limited relevance. The key idea is that throughout Christian history, there were reverberations which rocked the church and caused a great deal of discontent, angst and tension. Often, the development of a doctrine was contentious and controversial, and Kuhn asserted that scientific progress can also be tumultuous and influenced by factors of the day.

Hans Küng was the first theologian to apply Kuhn's ideas to theology. He believed that Christian history can be divided into paradigms, each depicting a particular worldview by which theology is carried out. Küng made several analogies between science and theology. Firstly, there is a heavy reliance on tradition, and secondly there is a distinction between normal development and crucial moments in Christian history where crises have arisen. Küng believed there were seven major paradigms: the primitive-Christian apocalyptic, the ancient church Hellenistic, medieval Roman Catholic, the Reformation-Protestant, the Protestant-Orthodox, the modern-Enlightenment and the contemporary ecumenical. Each of these, advanced Christian thought by adopting a worldview which would not have been completely compatible with any of the previous paradigms.

However, as novel and as original as Küng's work was, several drawbacks were identified. Revolutions often initiate with a single idea, and often with a single person. This seems to be true of Christian history also. Through the lens of history, it appears that it is not the complete change in worldview that leads the way towards a reassessment of Christianity, but rather it seems to begin with a singular discussion or debate on a matter of doctrine. In the beginning, it is not obvious that this debate would lead to an overhaul of the current paradigm. Another limitation of Küng is that paradigm changes take time and are not easily delineated as to their beginning and end. When reading Küng's work, one of the immediate impressions the reader might get is that the sum total of Christian history can be neatly divided into clearly demarcated epochs. But this is not the case. The line in deciding when a paradigm has taken over from another is quite often blurred and it is indicative of the struggle and conflict that is present when there is a transition from one paradigm to another. It is not clear if Küng believed that there were certain periods where there was more than one paradigm which could be seen as a viable alternative. Admittedly, at least twice paradigms were in competition with one another and not peacefully coexisting, but the alternatives were acceptable as none dominated. There was not a clear favourite paradigm and Christianity was still assessing which would be dominant. This would eventually be resolved but would invariably take time. The last limitation of Küng's work is that he only discussed the macromodel and not the micro or mesomodels. The benefit of taking such a broad-brush view of Christian history is obvious: the reader gets an overall understanding of the differences that have existed throughout Christian thought. The drawback was that there was a lack of focus on the way doctrines themselves emerged, progressed and developed. Additionally, it is not obvious how the different threads in Christian teaching are interrelated to one another and how a change or reassessment in one of them affects the others. Indeed, sometimes it is these reassessments that precipitate a re-evaluation of the existing paradigm, leading to a revolution. As a consequence, Kuhn's theories are soon to be even more useful than what Küng had perhaps imagined.

As noted, the use of theories from the philosophy of science as an aid to the understanding of Christian theology is not new. Wolfhart Pannenberg was one of the first theologians to rigorously apply theories from the philosophy of science to Christianity. He utilised the theories of Popper to affirm that the veracity of Christianity can be formulated as

hypotheses which may be falsified. Along with other theologians like Thomas Torrance, he held that Christian thought should have no room for anything other than rationality and objectivity. Although the subjective nature of a believer is important, what was paramount was the use of clear thinking and the avoidance of what could be considered a bias.

The seminal work of Pannenberg has been subsequently challenged. Critics have highlighted the insufficiency of explaining theology whilst omitting the impact that non-theological factors might have. Both Nancey Murphy and Wenzel Van Huyssteen have suggested that Lakatosian approaches might be more suitable to this task. The latter advocated what he termed postfoundationalism. Van Huyssteen suggested that this type of mediating position between foundationalism and relativism has rationality as its basis but its application is to be taken into account with the prevailing culture or society of the time. Such an approach also allows for dialogue between different disciplines because what they each share in common is the use of rationality. Philip Clayton, who is sympathetic to the work of Lakatos as a means to aid Christian thought, stressed the importance of explanations. He divided explanations into three different types: private, community and intersubjective. The private were clearly individual and subjective; the community explanations were those which were agreed upon by a community of believers; while intersubjective explanations were those which aimed to prove someone's beliefs or at least give a warrant for them. In applying theories from the philosophy of science to assist in explaining the development of doctrine, this thesis has sought to provide intersubjective explanations by analogously linking doctrinal development with the manner by which science progresses.

Notwithstanding the benefits of Kuhn's ideas as addressed by Küng previously and also in this thesis, there are gaps within Kuhn's theory in terms of how it applies to the development of Christian doctrine. The theories of Larry Laudan and Imre Lakatos take up mediating positions between the rationalist approach of Karl Popper and the contextual approach of Thomas Kuhn. But, their ideas are also useful in addressing some of the shortcomings of employing Kuhnian insights in understanding the development of doctrine. Firstly, there are conceptual problems within doctrinal development. It is not enough to develop a new teaching, but rather a new doctrine must be able to be integrated into an existing overarching framework. Theological proposals do not exist on their own, independent of other doctrines, but rather they

must co-exist with other doctrines. The problem might lie with concepts being vague and imprecise or a new doctrine being in contradiction with another that already exists. Another point of consideration is to distinguish research traditions from theories. For Laudan, research traditions are akin to Lakatosian research programmes or Kuhnian paradigms. Laudan noted that not all theories have the same weight in science. Analogously, in Christian thought, not all doctrines carry the same level of importance. Küng hinted at this when delineating different types of models into macro, meso and microlevels. Laudan goes further and indicates that some of the bigger doctrines can change or modify some aspects so that they remain the same and yet are continually transforming. Further, the issue of commensurability in paradigms is directly addressed by Paul Hoyningen-Huene and more subtly by Laudan. Just because paradigms are incommensurable does not mean that they cannot be compared. He believes that they could be put side-by-side to see how effective each is in terms of their problem-solving ability and also whether a paradigm was chosen because it directly answered a particular problem at the time. For Lakatos, empirical content is a factor which might cause research programmes to arise. This goes against Kuhn's notion that paradigm choice was not necessarily rational or objective. For both Laudan and Lakatos, a motive or reason for paradigm choice can be found.

Despite these differences, Kuhn, Laudan and Lakatos represent a significant shift from the formalist approach which Popper maintained. This move to applying more contextual and holistic approaches is not only manifested in recent literature in the philosophy of science, but also in the understanding in the development of doctrine. Recent factors emphasised in the development of doctrine can be broadly divided into three categories: the tension between tradition and doctrinal development, the importance of interpretation, and the role of communities in the development of doctrine. In particular, Kuhnian thoughts on these matters with regards to scientific progress are compared with contemporary works from Alister McGrath, Rhyne Putman, Kevin Vanhoozer and Anthony Thiselton.

It is hoped that this thesis proves to be a stepping stone in the application of contextual approaches in the philosophy of science to the understanding of the development of doctrine and perhaps to other aspects of Christian thought as well.

Appendix – Publications Arising from This Thesis

Küng on Kuhn: Insights from Küng's Paradigms in Theology for the Development of Doctrine. *Omega Indian Journal of Science and Religion*, 14(**1**), 9-29, 2015.

Contextual Approaches in the Dialogue between Theology and Science and Their Applications for Understanding the Development of Doctrine. *Christian Perspectives on Science and Technology*, March 2016, online

Larry Laudan's Research Traditions with Applications to Understanding the Development of Christian Doctrine. *Philosophy and Theology, Marquette University Journal,* 28(**2**), 331-49, 2016.

Kuhnian Correspondences in Contemporary Doctrinal Development Literature. *Icon of Faith – Journal of Interdisciplinary Scientific Research,* 105-119, January 2017.

Understanding Three Key Christian Doctrines Through Kuhnian Insights, *The European Journal of Science and Theology*, 13(**2**), 203-16, April 2017.

Kuhn's Structural Revolutions and the Development of Christian Doctrine: A Systematic Discussion. *The Heythrop Journal*, **58**(3), January 2017, online.

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