

Sketching a theology based on historical science

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Abstract

St. Thomas Aquinas envisaged theology to be a kind of scientia which was considered as a kind of first cause science. However, science of that time is different from “modern” science. Recently, a theory of scientific study has been developed, which outlines science by a theory and some models similar to knowledge in physics. According to this theory, (modern) sciences organize their knowledge consisting of theories, models and experiments interacting with physical situations. Perhaps, it is possible to organize knowledge of Christian theology in a similar way as science (from the perspective of Christian belief). Doing this requires extensive and deep knowledge of both science and Christian theology. This paper only attempts to sketch such a theology, which is coined scientia theology to distinguish it from the existing scientific theology of McGrath. Our theology consists of a theory that is outlined here, several historical event models (like the crucifixion model and the last supper model) as well as various experiments that provide us with observations supporting the related models and principles. The theory of our theology interacts with the models which may retrodict or are supported by observations from the experiments that interact with the physical situations.

Keywords: Scientia; First Principle; Theory; Christianity; Historical Science.[†]

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[†] Received on March 6, 2022. Accepted on June 24, 2022. Published on June 30, 2022. doi: 10.23756/sp.v10i1.728. ISSN 2282-7757; eISSN 2282-7765. ©Robert W.P. Luk. This paper is published under the CC-BY licence agreement.

1. Introduction

St Thomas Aquinas was attributed to the interrelated but divided (Loncar, 2021) disciplines of theology and philosophy in the Middle Ages due to the discovery of work by Aristotle on metaphysics. This has led to the development of science and theology in separate courses, and recent resurgence in the interests in their relationship (such as the academic journal, *Zygon*). To Aquinas, theology was thought to be some kind of science (or *scientia*), and this kind of science (Turner, 1997) is very important as it accounts for the first cause of the existence of things thereafter. The first cause is of course God and since God is eternal, God does not have any first cause to trace any further. However, the sciences at that time were mostly (natural) philosophies. So, it may not be obvious how (natural) philosophies can be sciences. Nevertheless, it was purported that sciences are high forms of knowledge based on principles from which consequences are deduced. These principles are taken to be self-evident and in the case of theology being a science (Beyers, 2016), these principles are accepted because they are revealed by God. So, theology as a kind of special science was considered by some more fundamental (Holzer, 2014) or as the queen of sciences (van den Brink, 2019).

In the post-enlightenment period, the historical development of science and theology went further apart as Schleiermacher developed the “anti-metaphysical” theology (Loncar, 2021) that came to fame through the theology of Karl Barth. While theology is still a rational discourse, it is no more a science of first cause. It considers faith, instead of being a mode of apprehending the truth, as a form of piety which is a state of immediate awareness of God that is not a form of scientific knowledge but instead what Schleiermacher calls “feeling”. According to Loncar (2021), “theology (then) becomes a rational modern discipline by disclaiming any scientific knowledge of God, including Scripture”. Further, according to Loncar (2021), “faith is personal, subjective, noncognitive, and thus incapable of coming into direct conflict with knowledge claims found in history, the natural science, or philosophy.” The impact of this development is enormous as Loncar (2021) noted: “When the form (Schleiermacher’s theology) lost wider credibility with the decline of Christianity as a cultural power, theology had no philosophical foundations to which it could appeal, just as religion, in the science-and-religion concept, has no real cognitive contribution to make to science. At best, religion is a personal or communal thing, focused on our feelings and experiences. Science, we would now say, is something wholly different.” While feelings and experiences are important in practice to live a Christian life, this meant that those who have no feelings and experiences

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(Ritchie, 2021) find those religions to be hard to grasp, and so they may render those religions as superstition.

Theology is not just put into a box of personal feelings and experiences. In modern times, philosophers have started to doubt science as well. What exactly is science is a matter of debate in philosophy. The scientific method has been questioned and logical positivism has been in retreat. Empiricism is no better. As a result, theology as a scientific discipline may raise eyebrow nowadays as what is science is unknown and theology seems to be completely separate from science. Nevertheless, recent work synthesized a topic called scientific theology by McGrath (2001,2002,2003), which tries to reconcile the differences between science and theology. To be more precise, it is trying to address issues in philosophy of science using a Christian theology. In the end, this looks more like a piece of philosophical work than a piece of scientific work, despite its name of scientific theology. One may consider that our work here is close to science-engaged theology (Perry and Leidenhag, 2021). However, so far, the special issue (April 2021) on science-engaged theology in the *Modern Theology* journal has been focusing on the particulars as well as some perspectives (Harrison, 2021; Jong, 2021; Grey, 2021), instead of the question of how science can organize knowledge in theology as in this paper.

Recently, Luk (2010, 2017) attempted to answer what is science by outlining scientific study by a theory and some models. Then, he tried to show that information retrieval (Luk, 2022) and computer science (Luk, 2020) are both sciences too, by mapping a scientific study of these two domains to scientific study abstracted from physics. According to Luk (2010, 2017), science consists of scientific knowledge that is arranged into theories, models and experiments, as well as assumptions and principles that govern how the scientific study is carried out. Scientific discourse, therefore, is quite different from philosophical discourse, in that science requires principles or laws that are applied to build models which predict outcomes that are evaluated by experiments. Unlike philosophy, science is not a discourse based on, for example, dialectic or argument to arrive at the conclusion. In this light, science is based on both evidence and reason instead of reason alone. If it is possible to base a theology on this perspective of science, in which principles are used to derive models that predict outcomes that are verified by experiments, then evidence and reason can both serve theology instead of just faith so that a more integrative understanding of God can be formulated, instead of separating faith and reason as in the post-Enlightenment period.

In this paper, we develop a sketch of a scientia theology which is a type of theology based on science. Unlike scientific theology which addresses issues in the philosophy of science, scientia theology is not concerned with such issues. Instead, it is more concerned with organizing the knowledge of God into a body of knowledge in a similar way as science, as well as following

principles and methods to investigate the revelations by God. It is called scientia because it has principles from which we can draw conclusions similar to what is desired by St Thomas Aquinas, or from which we can predict/retrodict outcomes that are supported by experiment. Instead of basing the theology on experimental science, our theology is based on historical science like the big bang theory being a historical scientific model. Scientia theology can be also considered as a kind of systematic theology (Healy, 2009; Williams, 2009) in which the theology is organized into an orderly, rational, coherent and systematic exposition. It is different from other systematic theology which has a list of major topics (e.g., Hamartiology and Soteriology) of discussion. Instead, it is arranged into theories, models and experiments interrelating to each other in the exposition as a scientific subject.

In the rest of this paper, we will explain what historical science is and how it is related to experimental science. In Sect. 3, physical situations are discussed relating to the issue of whether miracles can happen. In Sect. 4, we will formulate our initial theory of scientia theology. The assumptions, aim and principles will be formulated and explained. In Sect. 5, we will describe some models of scientia theology, explaining how some of these models support the principle that we find in our theory as well as an example of the application of principles to a model. In Sect. 6, we will discuss experiments where some of the outcomes are measured for the evaluation of those models. Finally, Sect. 7 draws the conclusion and speculates on possible future work.

2. Historical science

Historical science (Cleland, 2001) is very similar to the experimental science that is discussed in (Luk, 2010; 2017). The difference is that instead of carrying out experiments in a controlled setting, historical science (Cleland, 2002) examines the traces left behind by a historical event by observational studies or in an experimental setting. Therefore, an experiment in historical science may include observational studies in which the investigator makes observation of the traces left behind by a historical event. Thus, the meaning of experiment in historical science is broadened.

Like experimental science (Luk, 2010; 2017), historical science also organizes its knowledge in the form of theories, (scientific) models and experiments interacting with reality via physical situations. However, there is a minor difference between experimental science and historical science. It is that a model in historical science does not describe a current physical situation. Instead, the model describes a historical event which left traces or relics for historical science to experiment with. Figure 1 depicts how knowledge is organized in historical science.

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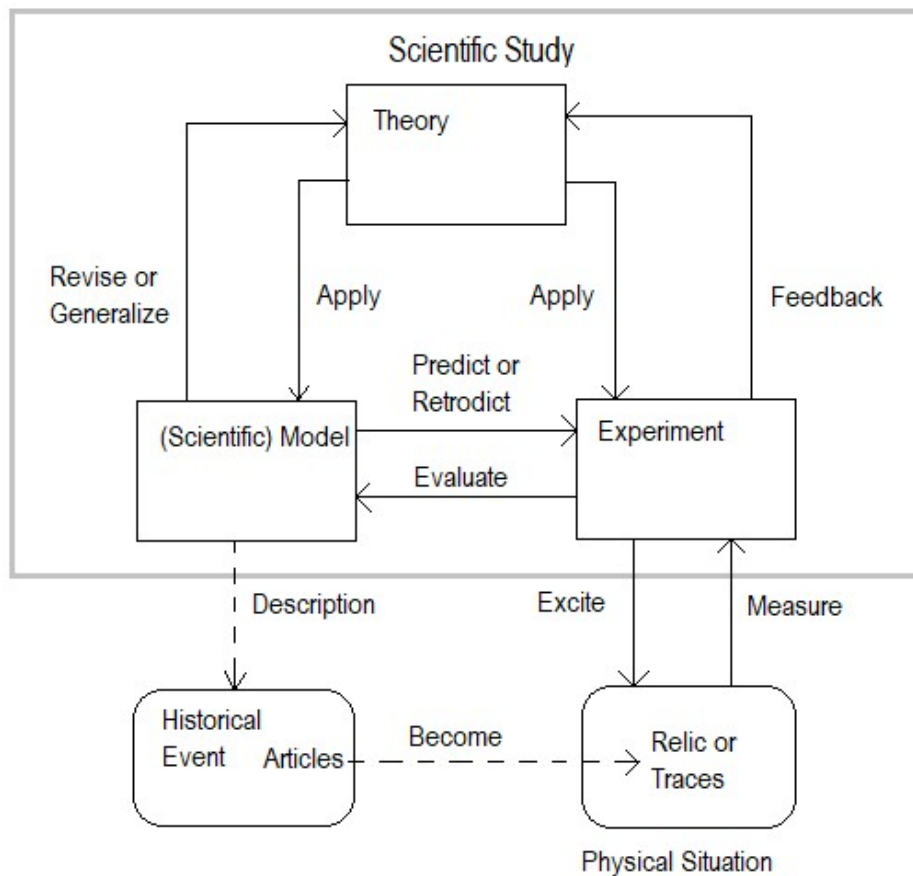


Figure 1: A model of historical science in terms of how the knowledge elements are organized. Note that experiments include observational studies. This is similar to the process model of scientific study as in Fig. 1 of (Luk, 2010).

In historical science, a model rarely predicts what will happen in the future in the experiment. Instead, the model of historical science typically retrodicts what happened in a historical event by examining the traces or relics left behind by the historical event. Since there may be more than one model that are proposed to describe the historical event, experiments on the relics or traces are done to select the surviving model as the best explanation/description of the historical event. The proposed models are typically called hypotheses, and the confirmed, surviving model may be called the scientific model that best describes the historical event. The model is considered scientific if there is strong reason to believe that the description of the historical event is accurate, and typically multiple lines of evidence are required to substantiate a model to be called scientific since the historical event may be underdetermined and/or overdetermined (Tucker, 2011).

With multiple historical events, there may be multiple models that describe well the historical events. Some common properties of these models may be able to be identified in due course, and these properties may be used to formulate principles in a theory. Therefore, there is a theory knowledge element in historical science. The principles may have predictive ability, so they may be verified by experiments. In other cases, the principle or law may be derived from other (scientific) theories. For example, the big bang theory is a cosmological model of the existence of the known universe from the earliest known period. This model is consistent with the Hubble-Lemaître law in the theory, which can be verified now.

One reason why experimental science is more likely to command more trust than historical science is that the experiments in experimental science can be done by repeated trials producing reproducible results as a demonstration of the power of its knowledge. In addition, the (scientific) model may make predictions with great precisions in the controlled experiments (e.g., Rainville et al., 2005) so that scientists have great trust in their models or theories. By contrast, historical science typically cannot carry out controlled experiments (because they may be singular events), and the historical events cannot be repeated at will to test the reproducibility of the experiment. Nevertheless, historical science assesses the reliability (Luk, 2017) of their experimental results when the scientists examine relics or traces of historical events so that we have some assessment of the reliability of the (scientific) knowledge. Moreover, instead of relying on replication of results, historical science uses multiple sources of evidence to support their (scientific) knowledge so that we can be more certain of our (scientific) knowledge. In some cases, a statistical methodology like examining the p -value can be used to accept or reject hypotheses as in experimental science (e.g., Luk, 2021). In the end, the ability to repeat the experiment to replicate the results does not guarantee that future experiments will succeed in replicating the results (Luk, 2019), demanding us to use a statistical methodology to accept or reject a hypothesis, even though we have great trust in this process. Therefore, multiple lines of evidence are required both in experimental science and historical science. Moreover, when scientific knowledge is applied to uncontrolled situations rather than in controlled experiments, the predictability of the scientific knowledge may fall, and sometimes auxiliary assumptions or heuristics (e.g., in predicting turbulent flow) are used to come up with a simplified model to make predictions which may not be very reliable or accurate. In fact, there is no guarantee that the (scientific) model has (very) high accuracy merely that it must be better than by random guess (Luk, 2017) and that its performance is higher than or similar to the state-of-the-art for such work to be published (which can be relatively low in some domains). Finally, (scientific) knowledge in historical science may be used to predict events in experiments nowadays, which can be

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replicated, so that historical science and experimental science are not separate entities without any interactions (e.g., as in Eucharistic miracles). Therefore, it is hard to conclude (e.g., Cleland, 2001) that experimental science is superior to historical science.

Applying historical science to theology, we may organize our theology based on theories, models and experiments. The theory of our theology has a set of principles or laws which are generalized from the models of historical events. These historical events may be events depicted in the Bible. The Bible (at least certain parts of it) can be regarded as our trace of the historical events, which is being examined in an experiment. The logical model that we can formulate from the Bible by observation and integration is the proposed model that describes the historical event. For example, all four Gospels have some description of the events surrounding the discovery of the empty tomb of Jesus Christ. These descriptions need to be integrated into a coherent, consistent logical model of the historical event that best describes the discovery of the empty tomb. Alternatively, we need to select one or more of the descriptions to formulate the model of the discovery of the empty tomb and weave out the unsupported ones. Note that we now rely on the formulation of logical or qualitative models (as scientific models) instead of quantitative models (in most experimental sciences), which is permitted as argued by Luk (2018). Also, note that as the God of Christianity is a living God, there may be other traces outside the Bible such as Eucharistic miracles, Marian apparitions, etc. that we can base our beliefs on.

3. Physical situation of scientia theology

Reality is considered to be the aggregate of all physical situations experienced by observers over various times. In science, physical situations are posited in certain spacetime for an observer to make observations. Then, we generalize this experience to other physical situations. In science, it is often assumed that physical situations remain as they are, operating according to physical laws given that no one is interfering. However, when it comes to theology, that depends on whether God would intervene in the physical situations where the physical laws may be broken. If there is a warranted belief in the existence of God, then physical situations may allow miracles to happen. In the case that we do not know whether God exists, miracles can still happen as that might implicate that God exists. Only in the case that we believe only physical laws operate and we do not believe in the existence of any spiritual beings (capable of breaking the physical laws), then we believe in methodological naturalism. So, are there any genuine miracles or are there any warranted beliefs that God exists?

Some examined miracles are the Eucharistic miracles that happened in 1992, 1994 and 1996 in Argentina because some of these miracles are documented in recent times (e.g., Tesoriero, 2007). The Eucharistic miracles (e.g., Cruz, 1991) involve bread turning into human flesh and wine turning into human blood. In recent times, the flesh was examined under a microscope and it was identified as human cardiac tissue, and the blood type was identified as type AB (e.g., Tesoriero, 2021). In Poland, a Eucharistic miracle (Krzywosz, 2016) also happened and this time, the flesh grew out of the consecrated host (i.e., bread), sticking together, leaving little doubt that there was a miracle. Given these findings, our position is that miracles can happen and they implicate that God exist, and therefore that is why we need theology to understand more fully about God. In general, the decision to accept whether or not Jesus Christ is the Son of God can be done by following a scientifically accepted methodology according to Luk (2021). Note that we are not requiring Eucharistic miracles to happen at will like in experimental science to claim that miracles exist. Instead, we only require a single occurrence of a miracle to show the existence of miracles (e.g., Willesee, 2017) implicating the existence of God, demonstrating methodological naturalism does not hold (which requires no miracles can ever happen).

Rewinding spacetime to the beginning of the universe, the Old Testament did write that the universe (or the known world) has a beginning but God does not. However, the Old Testament did not indicate that the universe began with a massive explosion like the big bang model. It can be anticipated that at the time the Old Testament was written (specifically Genesis), the Holy Spirit might be doing some “babytalk” about the beginning of the universe to the Bible writers as they might find it difficult to understand. This raises a question whether we can interpret the description of creation in Genesis literally or just as an allegory that conveys the message that creation was the work of God. Therefore, we will restrain from interpreting the Old Testament too literally to avoid arguments, for example, about the evolution hypothesis of human origins. In general, the Old Testament is open to interpretation in which human beings (i.e., Adam and Eve) may have been brought from another universe to this earth due to the fall of Adam and Eve, instead of evolving from apes on this earth. The humanoids on earth may have died out, and their DNA may be similar to those of Adam and Eve so that it is hard to trace whether we evolved from apes from this earth or came from another place. We will leave this to more research rather than arguing about it.

4 An initial theory of scientia theology

In this section, we sketch an initial theory of scientia theology, which consists of the aim, definitions, assumptions and principles. The first definition is about theology. Here, we define it as:

Definition of Theology: A body of knowledge about God.

This definition will be used in the aim of scientia theology. That is why it is defined first. Here, it is believed that God exists and it is assumed that we have carried out the hypothesis testing (Luk, 2021) that Jesus Christ is the Son of God with an affirmative result. Otherwise, others (e.g., Damper, 2022) may consider that our study is not open minded. Next, scientific knowledge refers to the knowledge that is organized into theories, models, and experiments that are related to the physical situations (Luk 2010; 2017). Based on these, we can define the aim of scientia theology, following the aim of scientific study of Luk (2017):

Aim of scientia theology: is (i) to produce good quality, objective, general, testable and complete scientific knowledge of theology, and (ii) to monitor and apply such knowledge.

The reason why the aim of scientia theology is based on the aim of scientific study is because we treat scientia theology as a kind of (historical) scientific study (about God). Since scientia theology is a kind of scientific study (King, 1991), the assumptions and principles raised in scientific study by Luk (2017) are also applicable to scientia theology. Note that the aim sets the direction that we should approach in our study and it does not mean that we are certain to be able to attain the aim of scientific study. For example, we strive to have complete scientific knowledge of theology but it may be not possible to have such complete knowledge.

Our domain-specific assumption of scientia theology is:

Assumption of Understanding: We can understand God to some extent.

If we cannot understand God, then there is no need to establish a scientific study of God. Also, God will not need to reveal Himself if we cannot understand God. Since God does reveal Himself, God knows that we can understand Him up to some limit, so this reinforces our assumption here.

Next, we formulate a first principle about the nature of God:

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Principle of God: God is eternal, almighty, holy, most high, just, loving, etc. (Supported by the Bible, Shroud of Turin, Eucharistic Miracles, Marian Apparitions, etc.)

This principle tries to spell out the distinguishing attributes of God. Due to the author's limited knowledge, not all the distinguishing attributes are listed here but only the prominent ones that we are going to refer to later. There is also a need to define some of these words which we have left out for those who will establish scientia theology. For example, a definition of what is holy is needed. We assume here that we know what this means. These attributes that we refer to should be known to be supported in some way by evidence or testimonies or observations (in this case at least from the Bible) so that these attributes are not invented by the author. This principle is supported by Shroud of Turin (e.g., STERA, 2021; McAvoy, 2021 and Calatayud, 2022), Eucharistic Miracles (e.g., Tesoriero, 2021 and Serafini, 2021) and Marian Apparitions (e.g., Wikipedia, 2021 and Dalleur, 2021) because God is almighty, who can perform miracles that break the laws or principles of this natural world. The attribute of the "most high" is also a very telling attribute supported by the incident of a fortune-telling spirit possessing a slave girl in the New Testament (Acts 16), saying that the disciples were sent by the "most high" God. This suggests that there are other spiritual beings or gods, so that there may be spirits or gods for other religions but these gods are not the "most high" God that is referred to by the Bible (another interpretation is that the "most high" God refers to the "most high" Greek or Pagan God which troubled Paul and Silas). Finally, this principle is a first principle because other principles are dependent on it, and it does not depend on other principles. It is a first principle also because it indicates that God is eternal, so that if the universe has a beginning, then God is the first cause.

When describing God using these attributes, there are some problems that arise. For example, the problem of evil may arise when God is omnipotent, omniscient and omnibenevolent. This problem states that if God is supremely good and is able to eradicate evil with all His knowledge, then He will prevent evil and such suffering. The question is why do we observe there to be so much evil in our lives? Christians have believed that it is more important to give free will to human beings than to eliminate suffering (of evil doing). It is by giving us free will that we are held responsible for our own actions, and that it shows that God loves us and God want us to love Him out of our free will, instead of requiring us to just follow his commands like a slave. In general, these problems that arise are not insurmountable, and describing God based on attributes are only an approximation with limitations as God is not bounded by the limitations of language.

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The next principle (Webster, 2009) may be considered by some as a mystery:

Principle of Holy Trinity: The Holy Trinity is God who is not just united spiritually among the Father, the Son and the Holy Spirit, but who love each other, and the Son is Jesus Christ who has a body, a soul and God spirit. (Supported by the Bible) (Follows from the Principle of God being loving)

The mystery is hopefully made clearer by not saying that the Holy Trinity consists of three persons because a person may be confused with the notion that he contains the spirit, a soul and a body, whereas the Father and the Holy spirit are just spirit. This is also consistent with the view that God is spirit as the Holy Trinity is united spiritually.

The following principle is related to our assumption of understanding:

Principle of Revelation: God reveals Himself to Mankind directly or indirectly in general. (Supported by the Bible, Shroud of Turin, Eucharistic Miracles, Marian Apparitions, etc.) (Based on the Assumption of Understanding and Follows from the Principle of God being loving and just)

God knows that we can understand Him up to some limit, so He is willing to reveal Himself to us. God reveals Himself to us because He loves us, as well as being just to us so that this principle is dependent on the Principle of God. This is supported by Shroud of Turin, Eucharistic Miracles, Marian Apparitions, etc., as these reveal about Himself being a loving and just God.

The next principle is due to human failings:

Principle of Original Sin: The disobedient behaviour of God's command by Adam and Eve by eating the fruit from the knowledge tree of good and evil, which led to the original sin condition of human birth, separating God and us from our birth. (Supported by the Bible and Marian Apparition) (Follows from God being loving and just)

God loves us, so He gives us free will similar to God who has free will. However, Adam's and Eve's free will was limited to not eating the fruit of the knowledge tree of good and evil. This serves as a test of their free will to follow God's command. The disobedient behaviour of God's command by Adam and Eve led to the original sin condition that we are separated from God

at birth. That is why we are not with God and why we may question His existence.

As Adam and Eve ate the fruit of the knowledge tree of good and evil, we become aware of good and evil. As evil usually means that it is easier or more expedient to do things, we have a tendency to sin:

Principle of Human Sinful Tendency: Human beings are prone to evil even though they have a good conscience because evil may be a convenient, effort-saving or expedient way of doing things. (Supported by the Bible) (Follows from the Principle of Original Sin)

Therefore, this principle is dependent on the Principle of Original Sin. However, God loves us and God is holy, so to be able to live with God together, we need to be able to wash away our sins. However, we are unable to stay away from sins by ourselves. That is why we have the following principle:

Principle of Salvation: Jesus Christ is the Son of God and the Messiah, who died on the cross for the redemption of our sin, who was buried, and who was resurrected on the third day after death. (Supported by the Bible, Shroud of Turin and Sudarium of Oviedo) (Follows from the Principle of God being loving, the Principle of Original Sin and the Principle of Human Sinful Tendency)

This principle is very important because believing in this principle opens the gate to Heaven (Principle of Heaven):

Principle of Heaven: There is a place called Heaven in which people who receive eternal life from God, live there joyfully (with God). (Supported by the Bible and Marian Apparitions) (Follows from the Principle of God being loving)

Note that we may not directly get to Heaven even after death even if we believed in the Principle of Salvation, because we may be sinful. So, to wash away our sin after death (as God is just) and to shape our soul so that it is suitable to live in Heaven, (principle of) Purgatory is necessary:

Principle of Purgatory: As there are (mortal) sinners after accepting God, there is a place called Purgatory to remedy their sins and shape their souls appropriately for living in

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Heaven. (Supported by the Bible and Marian Apparitions)
(Follows from the Principle of God being just and the
Principle of Human Sinful Tendency)

There are those who do not believe in God and they may end up in Hell:

Principle of Hell: As there are people who reject God
according to their free will, there is a place called Hell for
them. (Supported by the Bible and Marian Apparitions)
(Follows from the Principle of God being just, the Principle of
Original Sin and the Principle of Human Sinful Tendency)

As we have a sinful tendency and yet God loves us, God provides ways for
us to wash away for our sins during our lifetime when we have free will. The
first one is Baptism:

Principle of Baptism: It is a ritual for washing away our sins by
Baptism and committing ourselves to live a Christian life.
(Supported by the Bible) (Follows from the Principle of God
being loving, the Principle of Original Sin and the Principle of
Human Sinful Tendency)

The second way to wash away our sins (after Baptism) is to partake the
Eucharist:

Principle of Eucharist: For the redemption of sin after Baptism,
taking the bread as the flesh of Christ and the wine as the blood
of Christ to wash away our sin. (Supported by the Bible and
Eucharistic Miracles) (Follows from the Principle of God being
loving and the Principle of Human Sinful Tendency)

A theory behind the Eucharist is that we need to be in union with Jesus
Christ's flesh and blood in order to wash away our sins because the flesh and
blood of Jesus Christ are sinless, and because God endorsed that the flesh and
blood of Jesus Christ to redeem our sins (as the Principle of Salvation has
demonstrated). The Eucharistic miracles show that the bread does become the
flesh and the wine does become the blood, so that these ascertain us about the
union of our body with Jesus Christ's flesh and blood, and therefore the
redemption of our sins.

One can consider that Baptism and the Eucharist demonstrate that God
loves us, so we formulate the following principle:

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Principle of Love: God loves us, so we love God and each other. (Supported by the Bible) (Follows from the Principle of God being loving)

This principle is formulated so that we love God and each other as well as this is the highest commandment. Since God loves us, we have hope to get to Heaven so we formulate the following principle:

Principle of Hope: As there is salvation (or we believe in God before there is salvation), there is hope for joyful eternal life. (Supported by the Bible) (Follows from the Principle of God and the Principle of Salvation)

Finally, we need faith in our belief even though we have evidence and reason because:

Principle of Faith: We need faith as God follows His best way of doing things rather than our wishes and we need faith to believe God is the greatest or most high God, as well as being eternal. (Follows from the Principle of God being eternal, most high and loving)

It is not easy to demonstrate that God is the highest and God is eternal to finite-power humans. That is why we need faith to believe in these.

We have a notion that these principles are complete in that they tell a (salvation) story or plan by God. First, God is magnificent (Principle of God) based on our knowledge of God's attributes which are revealed to different extent by God (Principle of Revelation). God creates human being like Himself with free will except for eating the fruit of the knowledge tree of good and evil. God creates human being because He loves them as they are like Him in the sense that a human being is a triune being like God (the Holy Trinity), and that God: The Son is a human being (Principle of Holy Trinity). However, Adam and Eve broke God's command by eating the fruit from the knowledge tree of good and evil (Principle of Original Sin), so we inherit the original sin condition as well as having a tendency to sin (Principle of Human Sinful Tendency) because we have knowledge of good and evil. To reconcile the situation in which God is separated from us, God needs us to be sinless in order for us to be able to live with God. Since we are unable to be sinless by ourselves, God reveals Himself to us (Principle of Revelation) and redeems our sins by salvation (Principle of Salvation) so that the gates of Heaven (Principle of Heaven) are open to us. However, since we sin, we must wash away our sins by Baptism (Principle of Baptism) and afterwards by partaking the Eucharist (Principle of Eucharist). As we may still have sin, after death we may not be able to go to Heaven (Principle of Heaven) directly but instead go

to Purgatory (Principle of Purgatory). And, if we do not believe in God, we may end up in Hell after death (Principle of Hell). So, God shows us that He loves us (Principle of Love) and gives us hope (Principle of Hope), but we need to have faith (Principle of Faith) in order to overcome all the obstacles to get to Heaven to be with God. By relating these principles to the salvation plan by God, the significance of these principles is highlighted and valued even though these principles may originate from the Bible.

5 Models of scientia theology

These are descriptions of the historical events (e.g., exodus). Stories in the Bible are regarded as descriptions and therefore possible models of the historical events. Such descriptions may be pieced together to form a more rigorous model of the actual historical event that occurred. As there are many events in the Bible, we will look at just two events for illustration, related to the Principle of Salvation.

The Principle of Salvation is related to the crucifixion event and the resurrection event. In the four Gospels, they have different accounts of the crucifixion. To piece them together as a logical model, one aspect is the ordering of sayings by Jesus Christ when he was on the cross. Table 1 shows the temporal order of sayings by Jesus Christ on the cross. So, the logical model can be a harmonization of the descriptions in the Gospels instead of selecting one description as the logical model and falsifying which model should be taken away as in historical science. Also, during the crucifixion of Jesus Christ, some of the Gospel (e.g., Matthew) claim that the earth went dark and there was an earthquake. Lee Strobel (1998) quoted Yamauchi, who quoted scholar Paul Maier that:

“This phenomenon, evidently, was visible in Rome, Athens, and other Mediterranean cities. According to Tertullian... it was a ‘cosmic’ or ‘world event’. Phlegon, a Greek author from Caria writing a chronology soon after 137 A.D., reported that in the fourth year of the 202nd Olympiad (i.e., 33 A.D.) there was ‘the greatest eclipse of the sun’ and that ‘it became night in the sixth hour of the day [i.e., noon] so that stars even appeared in the heavens. There was a great earthquake in Bithynia, and many things were overturned in Nicaea.’ Yamauchi concluded, ‘So there is, as Paul Maier points out, nonbiblical attestation of the darkness that occurred at the time of Jesus’s crucifixion.’ (Strobel, 1998)

From the historical science point of view, this event is consistent with the darkness that came over as reported by the three Gospels so that this corroboration gives credit to the three Gospels account even though some Gospel accounts did not mention the darkness nor the earthquake.

The shroud of Turin can be used to implicate two events if it is believed to be the shroud that was wrapped around Jesus Christ when He was dead. The image of the shroud implicated that the person has been crucified, and that a miracle happened as required by a resurrection event. The miracle involves Jesus Christ who was radiant with ultra-violet light, imprinting an impression of Himself on the shroud as the shroud was tanned (or discoloured) and not painted nor burnt. The power of the ultra-violet light (Di Lazzro et al., 2010) is estimated to be beyond current technology, and that is why it is considered a miracle (note that there are other hypotheses like particle radiation). The shroud of Turin corroborates with Scripture that Jesus Christ was raised when the miracle happened as the image of the person on the shroud does not have any folding or creases.

Sayings of Jesus Christ on the cross	Matthew Gospel	Mark Gospel	Luke Gospel	John Gospel
Father, forgive they; for they know not what they do.			23:34	
Verily I say unto thee, Today shalt thou be with me in paradise.			23:43	
Woman, behold thy son! And behold thy mother!				19:26-27
Eloi, Eloi, lama sabachthani	27:46	15:34		
I thirst.				19:28
It is finished.				19:30
Father, into thy hands I commend my spirit.			23:46	

Table 1: The temporal ordering of sayings by Jesus Christ on the cross (adapted from Wikipedia).

Figure 2 shows how the knowledge elements are organized for the events related to the Principle of Salvation which is supported by the crucifixion event model and the resurrection event model. Both event models are harmonizations of the four Gospels accounts of crucifixion and the resurrection which is only implicated by the empty tomb discovery event. The

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crucifixion event model is consistent with the crucifixion observations in the experiment knowledge element. Specifically, the darkness event is supported by descriptions in Mark's Gospel, Luke's Gospel and Matthew's Gospel, as well as by Phlegon's chronology. The Earthquake event is supported by the observation in Matthew's Gospel and Phlegon's chronology. The shroud of Turin (e.g., Fernández-Capo, 2015; Fazio, 2019) also lends its support to the observation of crucifixion. For the resurrection observation, this is only implicated by the occurrence of a miracle registered in the shroud of Turin which depicted a "moved" image. Since the (stroboscopic) image registered moved fingers, this suggests that if the shroud of Turin wrapped the body of Jesus Christ, then He was alive (Calatayud, 2022) after the crucifixion, implicating there was a resurrection event. Also, observations lend support to the Scripture which predicted that Jesus Christ's body would be raised for there are no creases or folding in the image. This is consistent with the image on the shroud of Turin.

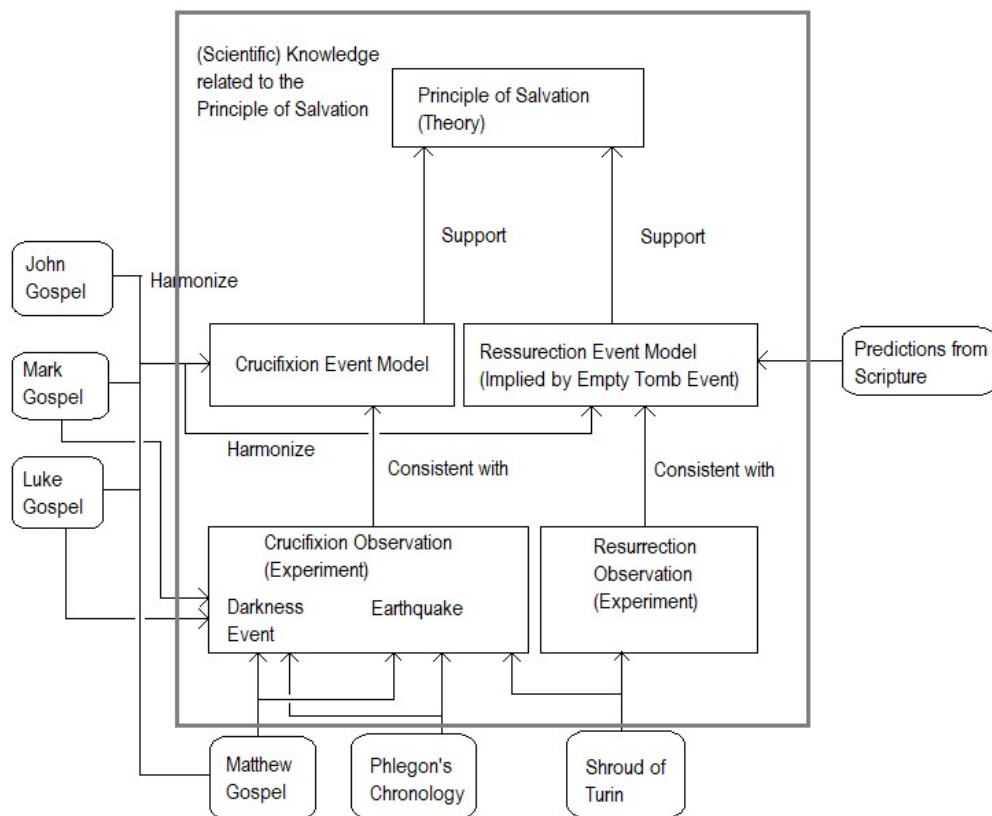


Figure 2: The framework of (scientific) knowledge related to the Principle of Salvation as adapted from Figure 1. Note that the Gospels, Phlegon's

chronology, shroud of Turin and predictions from Scripture are evidence in the physical situation realm.

Apart from evidence supporting the models which support the principles, the principles can also be applied to the models (Figure 1). In the Old Testaments, perhaps a common application of principles is the Principle of Human Sin Tendency (e.g., in Judges 19 of the Old Testament) because of sinful acts. In the New Testament, specifically Acts 10, the Principle of Baptism is applied as the Gentiles, Cornelius, was baptised. The Principle of Love is also applied in Acts 10 because God loves the Gentiles as well as Jews, so the Gentiles received the Holy Spirit as well.

6 Experiments of scientia theology

These are experiments done in archaeology, laboratories, etc. to show that the historical events happened or to discover facts about the historical events. These can also be observations from the Bible, which are considered to be part of the experiment. As there are many events, we have selected those related to the Principle of Eucharist which is related to the last supper historical event. The three Gospels and Corinthians I in the New Testament provide an account of the last supper event. We need to harmonize what Jesus Christ said in the last supper as the sayings differ (see Table 2). These sayings can be harmonized by identifying the main points common to the sayings. The first common point is “This is my body” where this refers to the bread. The second common point is “This is my blood” where this refers to the wine. The third common point is “This is God’s new covenant for the forgiveness of sins”. The final point is “Do this in remembrance of me”. These four common points are considered to be the content of the last supper event model when Jesus Christ spoke.

New Testament	Jesus Christ Sayings for the Last Supper
Matthew Gospel	“Take eat: this is my body” “Drink ye all of you. For this is my blood of the New Testament, which is shed for many for the remission of sins.”
Mark Gospel	“Take: this is my body” “This is my blood, God’s new covenant, poured out for many people.”
Luke Gospel	“This is my body, given for you. Eat it in my memory” “This cup is the new covenant written in my blood, blood poured out for you.”
Corinthians I	“This is my body, broken for you. Do this to remember me.” “This is my blood, my new covenant with you. Each time you drink this cup, remember me.

Table 2: Sayings by Jesus Christ in the last supper.

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Figure 3 shows the (scientific) knowledge related to the Principle of Eucharist which is supported by the last supper event model. In turn, this model is supported by the Eucharistic miracles (Serafini, 2021) at Lanciano and at Argentina, separately. As the wine turned into blood as what Jesus Christ said, the blood type is used to test whether the Eucharistic miracles are consistent with each other. The blood type was found to be AB which is the same blood type found in both miracles, as well as the shroud of Turin and the sudarium of Oviedo. Therefore, this corroborates with each other. For the miracles, the flesh found was also subject to observation using a microscope. It was found that the flesh is human cardiac muscle tissue for both miracles so that they corroborate with each other. The flesh found was transformed from the Eucharist bread which supports the last supper event model. The microscopic observations and blood tests are done based on modern technology. They represent using modern equipment in experiments to investigate the last supper event model instead of just observations by the naked eyes. One can consider that the experimental results found for the Eucharistic miracle at Lanciano in the 1970s can be used to predict the flesh type and blood type found for the Eucharistic miracle at Argentina at 1990s so that the last supper event model has predictive capability. There are other Eucharistic miracles for examples in Poland (Jacyna-Onyszkiewicz et al., 2018) and Mexico (Serafini, 2021) which further corroborate the blood type and the flesh found even though they are not detailed here.

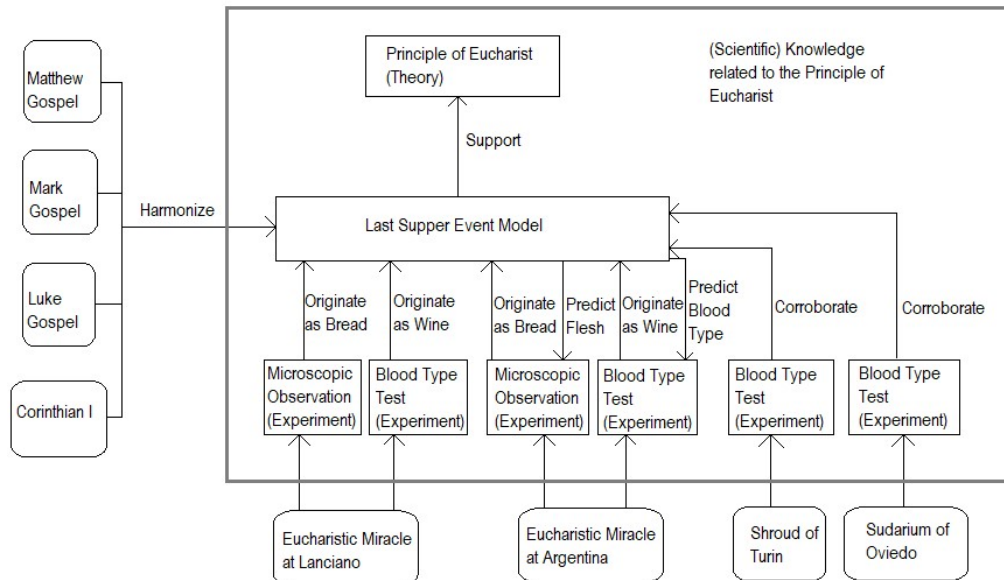


Figure 3: The framework of (scientific) knowledge related to the Principle of Eucharist as adapted from Figure 1.

It might be argued that the principle of Eucharist may require the bread and wine to be turned into Jesus Christ's flesh and blood respectively every time the Eucharist is performed. However, for most of the Eucharist performed, the bread and wine did not turn into Jesus Christ's flesh and blood, respectively. One answer to this is that the Principle of Eucharist says that the bread is treated as the body or flesh of Jesus Christ and the wine is treated as the blood of Jesus Christ instead of requiring that they are (when they are being taken). Another answer is that if the Eucharist is performed correctly and we ingested the bread and wine appropriately, then the bread and wine may turn into the flesh and blood of Jesus Christ inside our bodies. Since we do not make observations of the bread and wine in our bodies, we just do not know whether the bread and wine turned into the flesh and blood of Jesus Christ every time an appropriate Eucharist is performed. Therefore, there is no evidence to suggest that the ingested bread and wine did not turn into the flesh and blood of Jesus Christ. On the contrary, there is evidence, like the Eucharistic miracles, that the bread and wine after performing the Eucharist turned into flesh and blood (of Jesus Christ). Hence, the Principle of Eucharist still holds.

7 Conclusions

This paper tries to develop a scientia theology which is based on historical science instead of experimental science. Since historical science organizes its knowledge similar to experimental science, scientia theology organizes its knowledge based on a theory, a set of models and a set of experiments interacting with the physical situations like experimental science (Luk, 2010; 2017). The theory consists of a definition, a domain-specific assumption, a first principle in which other principles are related to directly or indirectly. The theory is kind of complete in the sense that the principles are used in formulating a highly concise story of God's salvation plan. Since there are many historical events in the Bible, there are potentially many (scientific) models of these events. In this paper, we only show two events that are related to the Principle of Salvation as an illustration. For experiments, we show that modern experimental set up can be used to investigate the last supper event model which supports the Principle of Eucharist. Our demonstration, here, is to show that it is possible to develop a theology that is akin to historical science so that we can claim that the theology is based on science.

Note that we do not want scientia theology to completely replace the Bible or to deny personal experience. Instead, it is envisaged that scientia theology complements the understanding of God. The Bible is still needed because it (or at least certain parts of it) can be regarded as the first-hand historical text that describes the original historical events that happened for Christians. Scientia theology complements the Bible by providing a framework to interpret the Bible. This framework is based on the perspective of understanding God in

providing a salvation plan to us. To have a better understanding, it is expected that knowledge from scientia theology and from the Bible as well as personal feelings and experience play their parts to shape our belief in God that leads us to practice a Christian life.

Acknowledgements

I would like to thank Prof. R.I. Damper and Dr Edward Dang for providing comments about this paper.

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