By comparing and contrasting two twentieth century theologians, critically assess how a Trinitarian doctrine of creation might contribute to theological engagement with modern science.

By Martin Stokley

Introduction

When beginning to expound a Christian doctrine of creation it is natural to begin with the first few chapters of Genesis. However, this not where the formulation of our doctrine should end as there are many other passages spread throughout the Old and New Testaments that also speak about creation.¹ A careful examination will find that not only is God the Father seen as creator, but also the Son and Holy Spirit have distinct roles in creation as well.² Creation is a work of the whole Trinity and therefore a fully formed Christian doctrine of creation needs to encompass Trinitarian concepts. Irenaeus was the first to specifically formulate a Trinitarian doctrine of creation through his concept of Trinitarian mediation.³ God creates through his two hands – the Son and the Spirit.⁴ After Irenaeus, Christology and Pneumatology generally faded into the background in the doctrine of creation.⁵ A more monistic picture of God became predominant which, building on Augustine, emphasised creation as an act of God’s absolute will and power at the expense of God’s relationship to the world.⁶ The danger of a monistic picture of creation is that in affirming God as a God of love we can end up implying that creation is necessitated for God to express his love. Creation is no longer a free act. A doctrine of creation beginning with the unity of God can provide a very different picture in comparison to that begins with the tri-unity of God. The triune God is able to express his love in eternity between the three persons of the godhead and creation is no longer necessitated for God to be loving. Creation is affirmed as free act of love. A truly Trinitarian theology enables us to avoid the errors of deism, pantheism, panenthism and emanationism.⁷ Gunton comments:

“…some form of personal mediation there must be if pantheism – too direct relation between creator and creation – or deism – the lack of real relation – are to be avoided.”⁸

Karl Barth’s resurrecting of Trinitarian theology in the twentieth century enabled a rediscovery of the Trinitarian doctrine of creation. However, although Barth emphasised the Trinitarian nature of theology he rejected any notion that the doctrine of creation should be in dialogue with science, he says: “… there can be no scientific problems, objections or aid in relation to what Holy Scripture and the

² For a summary of the Biblical teaching on creation see Gunton, C., The Triune Creator, pp.14-24
³ Gunton, C., The Triune Creator, pp.52-54;
⁴ Irenaeus, Against Heresies, 4.20.1
⁵ Gunton, C., ‘The Doctrine of Creation’ in Cambridge Companion to Christian Doctrine, p.150
⁷ Pantheism is the idea that God and world are identical (All is God). Panentheism is the idea that the world is in God. Emanationism is the idea that the world flows out of God and is not created separately. Deism is a rational belief that God created the universe and then withdrew, no longer interacting with it.
⁸ Gunton, C., The Triune Creator, p.136
Christian Church understand by the divine work of creation." Barth is characteristic of those who have sought to separate science from religion since the Enlightenment. More modern theologians depart from Barth at this point. Against Barth, Pannenberg comments: “If theologians want to conceive of God as the creator of the real world, they cannot possibly bypass the scientific description of that world.” This begs the question of what resources a specifically Trinitarian doctrine of creation might bring to a theological engagement with science. Two twentieth century theologians who seek to give a Trinitarian doctrine of creation are Jurgen Moltmann and Wolfhart Pannenberg. In this essay we will explore what their Trinitarian theology contributes to a theological engagement with modern science. We will first summarise and critique Moltmann’s and Pannenberg’s doctrines of creation. Then we will specifically look at some aspects of their engagement with modern science and what part the Trinity plays in this.

Jurgen Moltmann’s Doctrine of Creation

Moltmann’s primary formulation of his doctrine of creation is found in his books God in creation and Science and Wisdom. He seeks to affirm traditional concepts, for example creation out of nothing and God creating freely out of love, whilst giving a unique presentation of the doctrine.

Moltmann wants to expound an ecological doctrine of creation which responds to the present ecological crisis by giving a new vision of God’s relationship to the world. By ‘ecological’ doctrine, Moltmann has a specific concept in mind. The word ‘ecology’ is derived from a Greek word meaning ‘the doctrine of the house’ and Moltmann wants to use this idea of ‘home’ symbolically in the sense that the Creator dwells in his creation through his Spirit. Moltmann affirms the transcendent nature of God whilst also emphasising the immanence of God through his Spirit who is the giver of life and the foundation of existence of all creaturely reality. The Spirit is the life-force of creation and “constantly ‘animates’ it.” The purpose of God’s indwelling is then “to make the whole creation the house of God.” For Moltmann this has implications for the current ecological crisis. However, Moltmann’s critics rightly argue that although initially promising his theology tends to end up in speculation and it does not make “specific recommendations for ecological praxis: in this respect it is disappointingly, sometimes frustratingly, lacking in concreteness.”

Moltmann wants to give a fundamentally Trinitarian doctrine of creation:

“...God goes out of himself and makes a creation, a reality which is there as he is there, and yet is different from himself. Through the Son, God creates, reconciles

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9 Barth, K., Church Dogmatics (Vol. 3.1), p.ix; Pannenburg, W., ‘The Doctrine of Creation and Modern Science’, p.6
11 Moltmann, J., God in Creation ; Moltmann, J., Science and Wisdom
12 eg. see Moltmann, J., God in Creation, pp.74-75
13 Moltmann, J., God in Creation, p.xii
14 Ibid., pp. 11,14
15 Muller-Fahrenholz, G., The Kingdom and the Power, p.155
16 Moltmann, J., God in Creation, p.xiii
17 Bauckham, R., The Theology of Jurgen Moltmann, p.184
and redeems his creation. In the power of the Spirit, God is himself present in his creation – present in his reconciliation and his redemption of that creation.”

For Moltmann the Trinity is a community of persons and not divine hierarchy, which leads him to emphasise relationship in his doctrine of creation. Using the social Trinitarian concept of perichoresis Moltmann asserts a mutual indwelling of God and creation: “God in the world and the world in God”

This oversees concepts of subordination or dominance in God’s relationship to creation. God’s perichoretic relationship with creation for Moltmann is reflected in his idea that humanity is not to dominate creation but be in community with it. This concept of the world being in God leads directly to the most unique feature of Moltmann’s doctrine: the concept of Zimsum (God’s self-limitation) which he draws from Jewish Kabbalistic teaching.

He seeks to give a distinct view of creatio ex nihilo using a two stage model which ‘guarantees’ God’s omnipresence. Firstly, God makes room in himself for the finite world by withdrawing into himself. “It is not his will to occupy the space of his omnipresence alone. He limits himself in order to make room for other being.” Secondly, this enables a ‘nothing’ to come into existence out of which God can create.

Moltmann sees this self-limitation of God in creation as the foundation of the self-emptying of God revealed in Christ. This enables Moltmann to say that “… the reality of outside God still remains in God who has yielded up that ‘outwards’ in himself.” God and creation therefore mutually indwell each other: God in creation through the Spirit and creation in God through the concept of Zimsum. Moltmann asserts that there is still a difference between God and creation and this does not imply pantheism. However, Moltmann’s concept of Zimsum is panentheist and verging on emanationist. Moltmann himself would want to say that panentheism and Trinitarianism are in some way compatible ways of considering the immanence and transcendence of God.

Moltmann’s doctrine of creation is also eschatologically orientated through his use of the idea of the Sabbath. For Moltmann the crown of creation in Genesis 1 is not

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18 Moltmann, J., God in Creation, p.15
19 Bauckham, R., The Theology of Jurgen Moltmann, p.185
20 Moltmann, J., God in Creation, pp. 17, 150; Moltmann, J., Science and Wisdom, p.123
21 Moltmann, J., God in Creation, p. 32
22 Ibid., p.86ff
23 Moltmann, J., Science and Wisdom, p.120
24 See Moltmann, J., God in Creation, pp.86-87
25 Philippians 2; Moltmann, J., God in Creation, p.88; Moltmann, J., Science and Wisdom, p.58
26 Moltmann, J., God in Creation, p.89
27 Ibid., p.89
28 See Bouma-Prediger, S., God as the home of creation, pp.77,78; Molnar, P., The Function of the Trinity in Moltmann’s Ecological Doctrine of Creation, p.686
29 Gunton, C., The Triune Creator, p.141
30 Gunton, C., The Triune Creator, p.142 cf. Bouma-Prediger, S., God as the home of creation, p.80
31 Gunton, C., The Triune Creator, p.142
humanity but the Sabbath, which is a foretaste of the feast of creation and peace which is to come.\(^{32}\) In God’s Sabbath all creation finds its rest as well as its redemption.\(^{33}\) The Sabbath not only represents the consummation of creation but also the consummation of the messianic era’s redemption as well.\(^{34}\) Bauckham comments that for Moltmann:

“The Sabbath is the anticipation of the eschatological goal of all God’s creative work, in which he will come to rest in his creation and his creation will participate in his rest.”\(^{35}\)

Creation is on a journey towards this goal. The coming of Christ and the work of the Spirit seeks to move creation in this direction. Salvation is not just anthropocentric but includes the whole of creation.\(^{36}\) For Moltmann eschatological redemption through Christ involves Christ on the cross entering the “Nothingness out of which he created the world … He pervades the space of God-forsakenness with his presence.”\(^{37}\) in order to “gather that Nothingness into his eternal being.”\(^{38}\) Here we see Moltmann verges on an eschatological pantheism with redemption gathering the Nothingness into the being of God, which has implications for creation which was created in this Nothingness. Bouma-Prediger rightly asks “… how can the fundamental distinction between God and creation be preserved in the eschatological redemption of all things?”\(^{39}\)

The fundamental problem with Moltmann’s doctrine of creation is his failure to clearly distinguish between Creator and creation. Although Moltmann seeks to avoid the errors of pantheism and emanationism, we have to question whether he truly does. However, more positively we wish to acknowledge that Moltmann’s attempt to formulate a Trinitarian doctrine of creation does yield some useful insights for the engagement with modern science as we shall see below.

**Wolfhart Pannenberg’s Doctrine of Creation**

Pannenberg’s doctrine of creation espouses all of the traditional orthodox aspects of the doctrine, but his distinctiveness is found in two main ways. The first distinctive emphasis is found in his engagement with modern science.\(^{40}\) For Pannenberg dialogue between science and theology happens at the level of philosophy.\(^{41}\) Alienation between science and theology occurred largely due to Biblical fundamentalism, the mechanical implications of scientific idea and the Biblical picture of creation and nature being seen as primitive.\(^{42}\) Pannenberg seeks to counteract this by showing that the doctrine of creation and scientific knowledge are coherent

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\(^{32}\) Moltmann, J., *God in Creation*, pp.187, 276-296;
\(^{34}\) *Ibid.*, pp.277, 287-292
\(^{35}\) Bauckham, R., *The Theology of Jurgen Moltmann*, p.190
\(^{36}\) Muller-Fahrenholz, G., *The Kingdom and the Power*, p.158
\(^{37}\) Moltmann, J., *God in Creation*, p.91
\(^{38}\) *Ibid.*, p.93
\(^{39}\) Bouma-Prediger, S., *God as the home of creation*, p.80
\(^{40}\) Grenz, S., *Reason for Hope*, pp.79,81,83-85
\(^{41}\) Pannenberg, W., *God as Spirit – and natural science*, pp.783-784
\(^{42}\) Pannenberg, W., *The Doctrine of creation and Modern Science*, pp.4-6
with each other and this coherence is found in their common ground.\textsuperscript{43} He comments that “…the truth claim of creation is strengthened by the fact that in principle theology can integrate scientific statements into its coherent description of the world as the creation of God.”\textsuperscript{44} This does not mean that Pannenberg affirms the necessity of a ‘scientific creationism’ account of creation which is prevalent in fundamentalist Christian theology. For Pannenberg “Theology has to relate to the science that there is rather than invent a different form of science for its own use.”\textsuperscript{45} This emphasis on science and theology dialogue leads to Pannenberg in his doctrine of creation engaging at a deep level with scientific concepts.

The second emphasis of Pannenberg’s doctrine of creation is his Trinitarian theology. Rather than a detailed exposition of the Genesis accounts of creation, Pannenberg focuses primarily on describing creation from a Trinitarian perspective. He perceives the persons of the Trinity as being united in their outward action towards creation, but the inner Trinitarian activities of the Trinity are separable which allows him to describe their different roles.\textsuperscript{46} The Father is the “origin of the creatures in their contingency”\textsuperscript{47} in that he gives them existence, preserving and providing for them. The Son is the “origin of all that differs from the Father”\textsuperscript{48} as the Son’s creaturely self-distinction from the Father then becomes the foundation for independent creaturely existence. In this sense the Son is the mediator of creation. The Son’s mediation of creation is done in free obedience to a creative mission he is given by his Father.\textsuperscript{49} This means the “Father thus acts as Creator through the Son.”\textsuperscript{50} The Spirit then unites the Father and Son in creative agreement.\textsuperscript{51} The Spirit also has a specific role in creation. The Spirit is seen as being at work in creation as well as being the origin of creaturely life.\textsuperscript{52} For Pannenberg the Spirit is the immanent creative presence of God with his creatures and the way of creatures participating in the life of God.\textsuperscript{53} The Spirit brings life and links the creatures in fellowship with God.

Pannenberg’s two distinct emphasises of dialogue with science and a Trinitarian concept of creation come together in his concept of the spirit as a ‘field’. Pannenberg outlines the concept of force in science from Newton, to Faraday and beyond.\textsuperscript{54} Newton introduced the concept of immaterial forces through the concept of gravitation. However he was criticised for his theological implications that God was the source of this immaterial activity. Science sought to say that all forces could only originate in masses, therefore implying there was no need for God. Faraday’s new electromagnetic field theory enabled science to conceive of mass as being a secondary phenomenon of a field. This development of field theories continues into

\begin{itemize}
\item Holder, R., \textit{Creation and the sciences in the theology of Wolfhart Pannenberg}, pp.240-241; Pannenberg, W., \textit{Toward a Theology of Nature}, p.76
\item Pannenberg, W., \textit{Systematic Theology} (Vol.2), p.71
\item Pannenberg, W., \textit{The Doctrine of creation and Modern Science}, p.7
\item Pannenberg, W., \textit{Systematic Theology} (Vol.2), p.3
\item Ibid., p.21
\item Pannenberg, W., \textit{Systematic Theology} (Vol.2), pp.29-30
\item Ibid., p.30
\item Ibid., p.30
\item Genesis 1:2; Psalm 104:29f, see Pannenberg, W., \textit{Systematic Theology} (Vol.2), p.32 and Pannenberg, W., \textit{Toward a Theology of Nature}, pp.123-125
\item Pannenberg, W., \textit{Systematic Theology} (Vol.2), p.32
\item See Pannenberg, W., \textit{The Doctrine of creation and Modern Science}, p.12
\end{itemize}
modern science. For Pannenberg this “field concept could be used in theology to make the effective presence of God in every single phenomenon intelligible.”

He uses the work of Max Jammer who links modern field concept to the Stoic doctrine of divine \textit{pneuma}.\textsuperscript{56} \textit{Pneuma} was said to underlie the world and hold it together. However the problem arose that \textit{Pneuma} was conceived of materially, but with the advent of modern field theories this problem evaporated which enables us to connect the concept of spirit with field theories in a coherent way.\textsuperscript{57} Pannenberg locates the theological justification for linking the Spirit and field theory in the doctrine of the Trinity. The concept of God as spirit becomes conceived as a:

“dynamic field that is structured in a Trinitarian fashion … [and] …The person of the Holy Spirit is not himself to be understood as the field but as a unique manifestation (singularity) of the field of divine essentiality.”\textsuperscript{58}

The Spirit seen from a biblical point of view is seen as the source of movement and life in the world, which is consistent with the scientific model of forces producing movement.\textsuperscript{59} The (omni)presence of God can then be cast in the language of a field theory with the Spirit’s presence being a field which penetrates the whole of creation. Creation being constituted by and responsive to that field of God’s presence and the field describes God’s relationship to and activity in the world.\textsuperscript{60}

There have been numerous criticisms of both Pannenberg’s Trinitarian doctrine and creation and his concept of the Spirit as a field. Hefner questions whether it is possible to speak about inner life of the Trinity in the way that Pannenberg does without lapsing into speculation, especially when we begin to speak about the Trinity as a dynamic field.\textsuperscript{61} Gunton questions whether the language of the Son’s self-distinction from the Father as the foundation of creation leads to a too greater role for the Son in initiating creation instead of the Son being the mediator of the Father’s creation.\textsuperscript{62} Lastly, there is the problem of whether Pannenberg is ambiguous regarding whether the Spirit is a field or whether he is speaking using analogy.\textsuperscript{63} If Pannenberg is not speaking analogically there is the danger that the Spirit ends up being an impersonal force and not the third person of the Trinity.\textsuperscript{64}

Critical dialogue on these three issues continues and probably none are completely fatal for Pannenberg’s ideas. However what Pannenberg’s concept of the Spirit as a field does give us is an example of how a Trinitarian doctrine of creation can engage with scientific concepts and can even draw on scientific metaphors to seek theological insight. We will now build on this by comparing and contrasting how both

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\item Pannenberg, W., \textit{The Doctrine of creation and Modern Science}, p.12
\item Pannenberg, W., \textit{Systematic Theology (Vol.2)}, p.81
\item Ibid., pp.81-82
\item Pannenberg, W., \textit{Systematic Theology (Vol.2)}, p.83; Grenz, S., \textit{Reason For Hope}, p.86
\item Pannenberg, W., \textit{God as Spirit – and natural science}, p.786 cf. Hefner, P., \textit{Pannenberg’s Fundamental Challenges to Theology and Science}, p.804
\item Pannenberg, W., \textit{Systematic Theology (Vol.2)}, p.83 cf. Karkkainen, V., \textit{The Working of the Spirit}, p.20, but note here Karkkainen quotes Pannenberg but his reference is wrong and it is has not been possible to find the original source.
\item Hefner, P., \textit{Pannenberg’s Fundamental Challenges to Theology and Science}, p.807
\item Gunton, C., \textit{The Triune Creator}, p.159
\item Karkkainen, V., \textit{The Working of the Spirit}, p.21
\item Gunton, C., \textit{The Triune Creator}, p.161
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Moltmann and Pannenberg both engage modern science in a Trinitarian way. We will find that in both Moltmann and Pannenberg a Trinitarian doctrine of creation is not limited to initial creation, but also covers continuing creation and new creation. We are forced to consider the whole history in relation to creation which enables us to explore a Trinitarian engagement with science that encompasses the whole of history. We will look at three areas in the work of Pannenberg and Moltmann which encompasses this whole sweep of history: Creation and Physical Cosmology, Creation and Evolution, and Creation and Eschatology.

Creation and Physical Cosmology
Cosmology is the scientific study of the whole universe and it encompasses cosmogony which explores the scientific question of origins: Why is there something rather than nothing? How do Moltmann’s and Pannenberg’s Trinitarian doctrines of creation engage with this area? Firstly, we have to say that Moltmann does not directly engage with scientific cosmology at all and focuses more on evolution and anthropology. In his chapter in God in Creation on ‘The Space of Creation’ he disappointingly stops his discussion with the theories of Newton and does not consider Einstein’s theory of relativity which would lead onto modern scientific cosmology. It is important to note however that Moltmann indirectly touches on issues which connect with Cosmology through the concepts of creation out of nothing etc.

In contrast Pannenberg engages with modern theories of cosmology, but for him a scientific description of the cosmology can never give a full picture of the world. In conceiving of the Logos as being the “generative principle of all the finite reality that involves the difference of one thing from another” he sees order in the world as being founded on the wisdom of God and the particularities of creation find their unity in the Logos. This means we can only truly understand cosmology and creation in relationship to the Trinitarian God. However, as Pannenberg comments:

“the theological doctrine of creation is not bound to this or that individual scientific hypothesis. It can claim different scientific models, although there are conceivable scientific hypotheses which – if they can be verified – would exclude the idea of creation.”

Pannenberg in a critique of three specific scientific cosmological models argues that certain aspects of the doctrine of creation can be affirmed as consistent with these models (eg. God’s independence from the world and God’s actions as free) whilst other aspects are not (eg. in a steady state universe it is difficult to identify a moment of creation). Elsewhere Pannenberg argues that it was only with the emergence of big bang cosmology that science could start to talk about a beginning of the universe. However, physical theories of the history of the universe are unable to follow the universe’s evolution back till the time t=0 and for Pannenberg this means we cannot say the universe has a beginning based directly on the theories of physics. Pannenberg in his engagement with physical cosmology, although he

65 Pannenberg, W., Systematic Theology (Vol.2), p.62
66 Pannenberg, W., Toward a theology of Nature, p.102
67 Ibid., pp.103-104
68 Pannenberg, W., Systematic Theology (Vol.2), p.62
69 Ibid., pp.155-156
seeks to show that the Trinitarian doctrine of creation is either more or less consistent with the various theories of physical cosmology, rarely looks beyond general concepts. A doctrine of creation that is not specifically focussed around Trinitarian concepts could agree with Pannenberg’s conclusions. There is little mention of the specific Trinitarian roles of Father, Son and Holy Spirit in relation to physical cosmology in his dialogue. This implies that beyond affirming the Logos as the generative principle of difference, the specific roles of the Trinity can add little to the engagement of the doctrine of creation with physical cosmology.

Creation and Evolution

In contrast to a dearth of Trinitarian concepts in the engagement with physical cosmology, both Moltmann and Pannenberg give a fuller Trinitarian engagement with the origins of life.

For Moltmann creation was formed by the Spirit and the continual presence of the Spirit in creation brings life, energy and renewing to all creatures. The Spirit is the foundation of all life and animates the world. This enables Moltmann to say that creation is not a closed system because it is open to God and his future direction. The Spirit is a “principle of creativity … he creates new possibilities …in this sense the Spirit is the principle of evolution”. Moltmann sees creation as a series of stages leading to the creation of humanity and this enables him to view creation as dynamic and developing in time in contrast to a static creation where initial created forms are preserved. Moltmann is able to conceive of the Spirit working in the historical processes of evolution. However creation is not yet finished and it has eschatological or messianic orientation towards the eternal Sabbath or consummation. Through his Spirit, God brings new realities or possibilities into the world and draws it towards his goal. Yet Moltmann draws a line at being able to specifically identify God’s activity in creation, it is hidden. Neither can we identify any “supernatural interventions that God guides creation to its goal, and drives forward evolution.” For Moltmann it is through a suffering relationship with a creation that rejects him and his passion that God can generate new possibilities. Moltmann therefore is able to view evolution as consistent with a Trinitarian picture of creation with God continually at work in creation through the Spirit. Moltmann focuses primarily on the work of the Spirit in relation to evolution and is less interested in the role of the Son.

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70 eg. creation from nothing, the independence of creation, creation as contingent, creation of time and space etc.
71 Moltmann, J., God in Creation, pp.9-10
72 Ibid., pp.11,98,99
73 Ibid., p.103
74 Ibid., p.100
75 Ibid., pp.187,192
76 Bauckham, R., The Theology of Jurgen Moltmann, p.192
77 Moltmann, J., God in Creation, p.197
78 Ibid., pp.206,207
79 Ibid., p.211
80 Ibid., p.211
81 Ibid., pp.210-211
Pannenberg’s engagement with evolution is not unlike Moltmann’s. For him the Spirit is the origin of life. The stages of evolution are evidence of growing creaturely participation in the life of Spirit. The Spirit’s work is eschatological in nature and for Pannenberg we can only understand the Spirit’s work in creation from the perspective of the consummation. He admits this understanding will be hidden from scientific description. The work of the Spirit in evolution for Pannenberg is specifically framed in his concept of the Spirit as a field which pervades all creation.

“… [The Spirit’s] field operations are temporally structured, so that each new event proceeds from the future of God, from which all creaturely forms take their origins and seek their fulfilment.”

In contrast to Moltmann, Pannenberg engages with evolution Christologically as well as a Pneumatologically. The mediatorial role of the Son or Logos in creation is through the power of the Spirit and the Son is the origin of creaturely distinctiveness. The incarnation becomes the perfect realisation of the Logos in creation and the direction of history (and therefore evolution) is toward fulfilment of the representation of the Logos in humanity. Creation is viewed as a historical sequence of creaturely forms from which humanity emerges. Pannenberg sees humanity as the goal of creation in contrast to Moltmann who sees the Sabbath as creation’s goal. Pannenberg affirms the evolutionary sequence of forms as being potentially consistent with the Genesis accounts if we accept the idea of God’s ongoing creative activity. Pannenberg’s view of evolution is influenced by Teilhard de Chardin and his concept of a teleological direction in the evolution which is driven forward by a spiritual power. However Pannenberg wants to revise Teilhard’s views in line with his concept of the Spirit as a field.

Both Moltmann and Pannenberg engage with evolution from a Trinitarian perspective to a greater or lesser extent. Through an acknowledgement of God’s continuing creation through the Spirit they seek to show how evolution could be consistent with theology. Both actively avoid identifying a physical mechanism for how God moves the process of evolution forward and would want to say that different physical mechanisms would be consist with their theology. In the case of evolution therefore what a Trinitarian doctrine of creation enables us to do is emphasise God’s on-going creative activity which allows us to move beyond seeing the creation of life as being about static forms.

**Creation and Eschatology**

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82 Pannenberg, W., *Systematic Theology (Vol.2)*, p.32
83 Ibid., pp.33-34
84 Ibid., p.98
85 Ibid., p.98
86 Ibid., p.109
87 Ibid., p.110
88 Ibid., p.115
89 Ibid., p.115
90 Ibid., pp.116-119
91 Pannenberg, W., *Toward a theology of Nature*, pp.47, 57, 128-129
We have already seen the eschatological direction of Pannenberg’s and Moltmann’s theology. It is impossible to divorce eschatology from the doctrine of creation as at the Eschaton God creates the world anew. For Pannenberg the goal of creation is sharing in the life of God and but this is not yet a reality.\(^\text{93}\) He argues that “Creation and eschatology belong together because it is only in the eschatological consummation that the destiny of the creature, especially the human creature, will come to fulfilment.”\(^\text{94}\) The unity of initial creation and new creation is found in the creator God.\(^\text{95}\) Pannenberg engages with some scientific theories regarding the end of the world. He considers the so called ‘heat death’ which is implied in the second law of thermodynamics, as well as eternal expansion or the contraction and implosion based on the Big Bang model.\(^\text{96}\) Asking the question if these are relevant to the theological view of the end of world, he points out that these models assume human extinction before the end of the universe and this is in contrast to biblical picture which sees the two as coinciding.\(^\text{97}\) An anthropic principle view which asserts the necessary development of human life also does not do justice to the biblical picture for Pannenberg even if it points in the right direction.\(^\text{98}\) Here again we see that there is little interaction between a specifically Trinitarian perspective and the scientific description. The closest that Pannenberg comes to Trinitarian terminology in his dialogue with the eschatology of modern science is a tentative mention of the on-going divine creativity through the Spirit as field concept.\(^\text{99}\) For Pannenberg, concepts of new creation and resurrection do not come into his dialogue with scientific models of eschatology.

Moltmann hardly engages with modern science in his discussion of eschatology and creation. For Moltmann, theologically the consummation is about “God’s indwelling in the new creation”\(^\text{100}\) where God’s presence will permeate the whole of his creation which leads to the renewing of all creation. This leads to the eternal Sabbath rest of creation.\(^\text{101}\) For Moltmann then eschatology is about the presence of God in creation and obviously the God who is present is the Triune God. Moltmann also criticises the ideas of Teilhard de Chardin who equates evolution with redemption. Eschatology then becomes the end point of progress at the omega point. Moltmann does not deny the on-going creativity of God through evolution but he does affirm Christ as the one who suffers with his creation and redeems all the suffering experienced through the stages of evolution in history.\(^\text{102}\) Moltmann sees redemption through Christ at the eschaton as being beyond scientific processes.

Comparing the engagement of eschatology (new creation) with modern science in both the work of Pannenberg and Moltmann we see that, whilst from a theological

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\(^{93}\) Pannenberg, W., Systematic Theology (Vol.2), pp.136-138
\(^{94}\) Ibid., p.139
\(^{95}\) Ibid., p.139
\(^{96}\) Ibid., p.158
\(^{97}\) Ibid., pp.158-159
\(^{98}\) Ibid., p.161
\(^{99}\) Ibid., p.161
\(^{100}\) Moltmann, J., Science and Wisdom, p.45
\(^{101}\) Moltmann, J., God in Creation, p.287
point of view the members of the Trinity are important\(^{103}\), there cannot be any constructive engagement between Trinitarian conceptions of the Eschaton and specific scientific predictions of the end of the world. Both Moltmann and Pannenberg would affirm the on-going creativity and presence of Triune God at the Eschaton, but would argue that the transformation of new creation moves beyond scientific description. Creation is not a closed system but open to the God, who through the Son and Spirit brings to completion and redemption the creation he established at the beginning. For science it is impossible to conceive of the end of world being due to an external factor, therefore it is unlikely that scientific eschatology and the theological eschatological will ever support each other’s conclusions.

**A Trinitarian Doctrine of Creation and the Engagement with Modern Science**

In this last section we will draw together some of the strands of thought that we have outlined above as we explored the theologies of Pannenberg and Moltmann. We are specifically interested in how a Trinitarian doctrine of creation might contribute to a theological engagement with modern science.

Firstly, we have seen that both for Moltmann and Pannenberg in their individual ways a Trinitarian doctrine of creation forces us to look beyond just initial creation towards a holistic account of God’s creative acts in the world. The creative work of God encompasses initial creation, continuing creation and new creation. From a general perspective then the engagement of the doctrine of creation with science is therefore wider than just the concept of origins, but it can engage with scientific hypothesis which speak about past, present and future of the world and humanity.

Secondly, a Trinitarian doctrine of creation provides a model for God’s relationship to the world which emphasises God’s distinctiveness from as well as his immanence in creation. Whilst we may question Moltmann’s concepts of the world dwelling in God for its emanationist and panentheist implications, we cannot deny his pneumatological perspective on creation speaks of a continuing presence of God in the world. Pannenberg takes this idea further with his concept of the Spirit as a field, however he also wishes to affirm more clearly the distinction between the creator and the created and he does this through the idea of the Logos as the principle of distinction in the world. A Trinitarian doctrine therefore helps keep the world open to God and denies that the world is a closed physical system as scientists sometimes imply. This enables us to move beyond a deist account and the mechanical picture of the world which is prevalent in science. God is not limited by the laws of science as they are contingent on him and therefore any engagement with specific scientific hypotheses cannot preclude the work of God in creation. This also helps us move beyond a ‘God of the gaps’ explanation of God’s activity in the world.

Thirdly and building on this, the continuing presence of the creator and the world as an open system allows us to speak of the continuing creative activity of God in the world. This in turn enables us to view the possibility that the doctrine of creation can be consistent with evolutionary concepts of the origin of humanity. A Trinitarian

\(^{103}\) eg. the second coming of Christ, Christ as redeemer and eschatological model for humanity, the Spirit’s work of new creation etc.
doctrine of creation enables both Pannenberg and Moltmann to open the door to considering the original forms of life as not being static but dynamic forms. The Trinity helps explain the on-going creation of new possibilities in the world from a theological point of view which is consistent with the modern scientific picture. This theological explanation being a dynamic explanation however is not tied to a specific scientific theory and may be consistent with many different scientific theories. Therefore, future developments of modern science should not necessarily be fatal to a theological picture which is then open to dialogue with new theories as they develop.

Fourthly, a Trinitarian doctrine of creation may find metaphors in modern science to help explain God’s Trinitarian relationship to the world and to describe the nature of God. We saw that Moltmann used the scientific concept of space or room in his concept of *Zimsum* as a metaphor for God’s relationship to the world. For the reasons above we dismissed this as being a helpful metaphor for theology. Pannenberg’s appropriation of the metaphor of field to talk about spirit was more helpful but not without its difficulties. Both these uses of scientific concepts in talking about the Trinitarian God shows that in the engagement with modern science it may be possible to use scientific metaphors constructively in theology and not just seeing theology as being critical of scientific theories. However, the criticisms of Moltmann and Pannenberg show us that any use of scientific metaphor should be critically examined so that we do not import unorthodox theological ideas into our concept of God.

Lastly, we note the limitations of a Trinitarian engagement with modern science. Both Moltmann and Pannenberg were not able to relate the Trinity to cosmology and scientific eschatology in anything other than a general way. In relation to Cosmology their conclusions could have equally been drawn by a less specifically Trinitarianly orientated doctrine of creation eg. the conclusion that the steady state cosmological model seems to rule out an initial creation. For eschatology they essentially argued that a Trinitarian perspective forces us to have concerns about the scientific picture. Additionally, even though a Trinitarian perspective was more productive in the engagement with evolution Moltmann and Pannenberg ended up with a general picture of God’s creative work in evolution and not a picture that linked the individual persons of the trinity to specific detailed aspects of evolutionary theory. Moltmann and Pannenberg did not want to identify the Spirit’s work in the world with specific physical mechanisms. A Trinitarian doctrine of creation enables theology to widen its perspective on the nature of creation through the individual roles of the Trinity. However, beyond general assertions of God’s on-going creativity and presence in the world it does not allow engagement with the minute details of a specific scientific hypothesis.

**Conclusion**

In this essay we have seen that the Trinitarian doctrines of creation of Moltmann and Pannenberg encompass initial creation, on-going creation and new creation. This enables a dialogue that challenges scientific materialism and affirms God’s continuing activity in a world which is not a closed system. Following Pannenberg we affirm that a Trinitarian doctrine of creation should be able to show its coherence with the findings of modern science, it is not tied to a specific scientific theory but should
be consistent with different scientific theories. We saw specifically that a Trinitarian doctrine of creation enables a specific engagement with evolutionary theories in a constructive way, whilst acknowledging that there are very real limitations to a Trinitarian engagement with modern science.
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