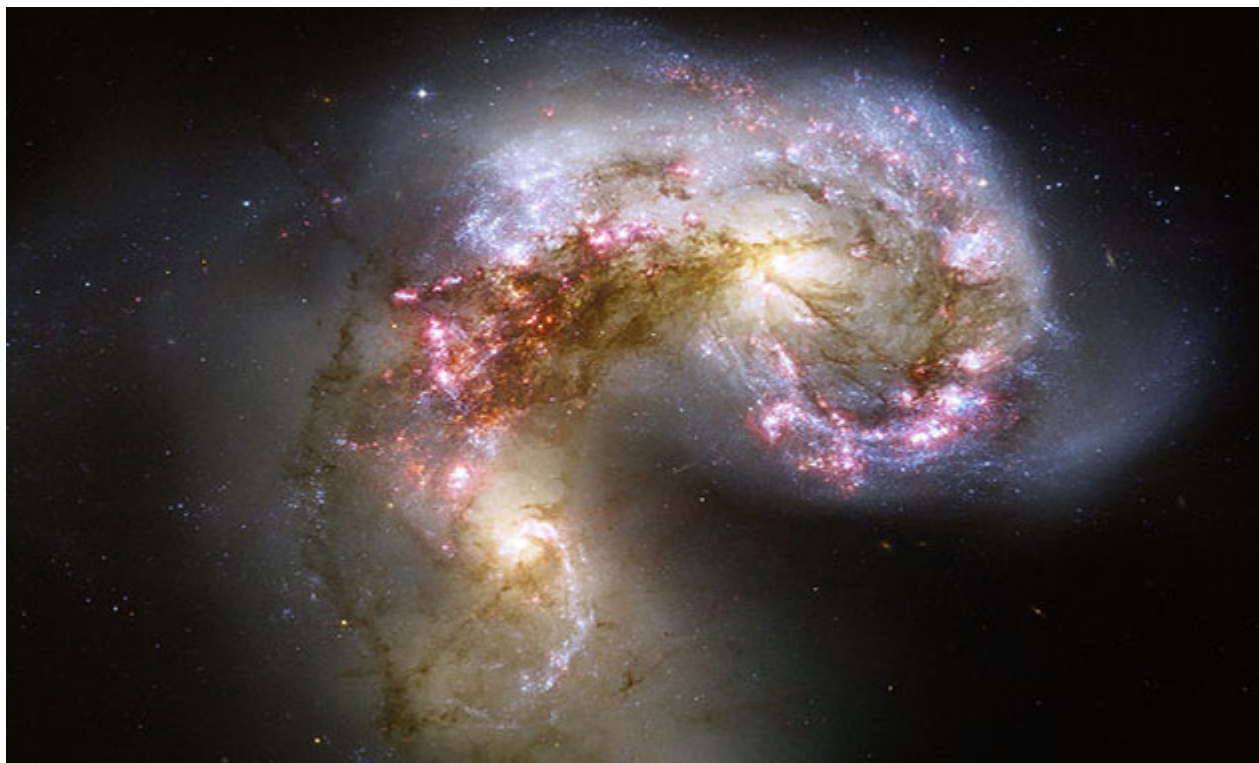


God and Science (Archpriest Gregory Hallam)

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It has become a truism for many in the West that faith and science belong to two conflicting world views. An atheist will say that science is rational, based on empirical observation and self-correcting as new theories eventually modify or replace old out-dated ones. Faith, on the other hand, is held to be irrational, defined by static religious texts and immovable religious authorities, which can be neither challenged nor revised. There is another view that regards this conflict as a needless clash of two Titans of similar breed: fundamentalism in religion and triumphalism in science.



Rather than a genuine standoff between two antagonists we have instead a phoney war based on a cartoon version of both disciplines and, therefore, a misunderstanding of the true purpose of each. These two approaches to Reality—science and religion—are actually complementary, this other view holds, and not at all mutually exclusive. Orthodox Christianity shares a common platform with these more positive voices, but with its own distinctive approach. A perspective from history will help.

There is a historical background to this clash between faith and science in the west, a legacy in which Orthodox Christianity has no part. In Catholic Europe in the Middle Ages the scholastic movement sought to develop the idea that reason alone could establish certain basic fundamentals of Christianity. This approach has sometimes been referred to as natural theology or natural law. However, natural theology had its own built-in self-limitation in that reason alone could not impart the fullness of faith, because faith came with grace and revelation. This distinction between reason and faith became hardened into a division, sometimes even a mutual antagonism. The Galileo affair showed just how difficult it was for the Catholic Church to accommodate the findings of natural philosophy, or as we now call it, science. Not until 1992 did Pope John Paul II finally and fully exonerate Galileo. This is deeply ironic, even tragic, bearing in mind the intellectual space that Catholicism had itself created in natural law precisely for the application of reason and the importance of empirical observation.



Pope John Paul II

Protestantism showed itself to be more amenable to the rise of science in its own host cultures, but only because, under the influence of Calvinism, it had further hardened the division between faith and reason to the point of completely isolating a grace-only theology from the natural world and human faculties. This widening gap hit a crisis point in the 18th century during the full flowering of the Enlightenment when many Protestant theologians abandoned any semblance of orthodox (lower case) Christianity and embraced deism.

The deist god was only in the most minimal sense a Creator in the sense that at creation he had “lit the blue touch paper,” and retired to a ‘safe distance’ allowing creation to develop in accordance with the laws with which he had imbued it. Deism retained the kernel of monotheism’s insistence that creation was not itself God, but rather a rationally accessible and predictable expression of his creative mind and will. However, it made providence, divine intervention, miracles and intercessory prayer extremely problematic notions, for these were now considered to be “supernatural” – by definition contrary to the natural order and, therefore, extremely improbable. At about this time pietism grew stronger in some Protestant traditions by way of reaction and this movement tended to scorn reason and emphasise religious experience as an exclusion zone of grace, inaccessible by definition to scientific enquiry. Eventually even this bastion of pseudo-orthodoxy fell with the rise of neuroscience which showed itself quite competent in analysing altered states of consciousness in the religious mind, not exactly explaining them away but at least demystifying them. Soon the intellectual establishment

embraced Positivism—the Great Idea that the sciences themselves were a sufficient and exclusively reliable description of the totality of human experience. This scientism, as many have called it since, has been popularised in our own time by such notable atheist propagandist popularisers as Richard Dawkins and Daniel Dennett. Their relentless and theologically illiterate evangelism has been the source of much functional atheism amongst lazy thinkers and uninformed media pundits ever since. Sadly, too many people have taken their word as the true gospel for a life freed from the shackles of religion and superstition. God has finally been dethroned; or has He?

The trouble with this alienation between faith and science is that it is so deeply embedded in Western culture that it seems blind to its own myopic view of reality and the spiritual and intellectual origins of its unquestioned assumptions. In propaganda terms, atheist popularisers have a vested interest in attacking a caricature of religion as normatively fundamentalist. In the general population the level of religious literacy is so low that many simply buy the half-baked notions that seem to be continually recycled in the latest paperbacks of authors who have made a very decent living out of the whole sorry enterprise. Since many people unquestioningly assume that all Christians are the same and believe the same things, it has become almost impossible for Orthodox Christians to contribute to the debate without being written off as self-serving or idiosyncratic. I do not think, however, that we shall be able to improve on this situation until we can put some clear blue water between the caricature and the reality.

Creation Explains God



Creator, utterly transcendent to anything created—literally the Uncreated One.

Firstly we need to establish some basics of the Judaeo-Christian tradition, later adopted by Islam. This monotheist infrastructure is often not well understood. Significant differences exist within the religious traditions, but there is enough common ground to establish a shared platform concerning the relationship between God and the world. So, let us start with creation and the monotheist position. Is it possible to believe in God the Creator without being a creationist?

‘In the beginning God made heaven and earth.’ (Genesis 1:1) So begins Jewish and Christian Holy Scripture. The Jews were exceptional amongst all peoples of antiquity in their insistence that God and the natural order were neither to be confused nor fused. The creation owed its being and purpose to God. God himself was singular and unique. There was only one God and God was one.

The surrounding cultures had very different ideas in their creation stories. Many supposed a pantheon of deities only some of which had any role in creation. Others commonly believed that the creation was itself part of God, an emanation of

His being. However, the Jews under the divine revelation of their covenant knew that God could not be divided without impugning His sovereignty and power; He could not be confused with creation for then He would be subject to change, violating His self-sufficiency and perfection. Such sovereign sufficiency required the belief that God created the Cosmos out of His own love, freely, so as to nurture something “not-Himself” into a dynamic and evolving relationship of communion with Himself. This applied in the first place to the physical process of creation itself, which was not instantaneous but rather an unfolding fecundity of God from the Earth itself (Genesis 1: “let the earth bring forth ...”).

Although man was a special case in that only he, both male and female of course, was made in the image and likeness of God, there is no reason to suppose that humans, animated by the breath of God, were exempt from these natural processes of life development. This then is our first conclusion: the supposed conflict between faith in a Creator and evolutionary processes is both unnecessary and harmful to the pursuit of truth. For this not to be case, humans would have to be a special instance in the development of life such that our biological genesis could not be connected to precursor species. However, the Scriptures of the monotheist religions make no comment on such matters; they do not even consider them. How could it be otherwise? The prevailing knowledge of the development of life lay in a pre-scientific age. Revealed truth concerning the dignity of humankind is built neither on the inclusion or exclusion of the theory of evolution; and so it goes for every other discovery of science. There can, therefore, never be a conflict between religion and science if each remains true to its principles and methods. As an example, we can push the logic of this position back to the dawn of creation itself, the Big Bang, and whatever may lie beyond or before that. The “how” of creation (i.e. science) has absolutely no bearing on the “why” of creation (i.e. religion) and vice versa. In so far as religion addresses the different and exclusive question of why there is something rather than nothing and why we are here, the language and processes employed are not those of the scientific method but of relationship tested in human experience—the relationship that is between God and the Cosmos. Any attempt to construe the reality of God from principles of design in the Cosmos, intelligent or otherwise, although superficially plausible, falls into the error of thinking that religion exists to explain this order in Creation. This is the fatal God-of-the-gaps defence of God-the-Explainer, forever retreating behind the advancing frontline of science, always a feeble competitor, never a strong associate. From a true monotheistic perspective, God does not explain Creation, Creation explains God. Knowledge of God comes not through science but by a direct personal encounter. This was first tested in the covenant relationship between God and his people, the Hebrews.

Something from Nothing

The Jews did not know God because they philosophised about Him, but rather because they had entered into a relationship with the One who had made a friend with Abraham and the patriarchs, Moses and the prophets. His ways had been made known in salvation and judgement; and this required from them faithfulness and love, repentance and hope. The expression of this relationship was a personal and existential knowledge of the Creator, utterly transcendent to anything created—literally the Uncreated One. This transcendent Being they came to know

as above and beyond infinity, space, time, created reality itself, was so sacred that even his Name could not be spoken. Later in Israel's history, and particularly after the emergence of the Wisdom writings in the post-Exilic environment of Hellenism, the people of God began to reflect more thoroughly on the presuppositions and implications of their faith in an utterly transcendent Creator. There is then a marked progression and refinement in understanding for example between Genesis, which only considers creation from the starting point of pre-formed matter (1:2), and 2 Maccabees 7:28, which follows the received faith to its logical conclusion, namely that the Cosmos was made out of nothing (ex nihilo) or rather, more properly, out of that which had no being.



Metropolitan Philaret of Moscow

The implications of the ex nihilo doctrine are radical when contrasted with the confusion of nature and God which is often characteristic of pagan and polytheist faiths. For example, the world does not exist eternally but, as St Augustine emphasised, both space and time were created with matter and energy, making the terms “before creation” and “after creation” meaningless. So, there is creation “before” time (a singular Big Bang or multiple primordial creations) and creation in time as the one Cosmos or the Multiverse evolves. Before-time creation is possible in so far as God in His essence utterly transcends anything He creates. In-time creation is possible because God embeds Himself in the Cosmos from the outset by His energies. (I shall explain further this classic Orthodox distinction between the essence and energies of God in the next theological section: “God is both Creator

and Trinity” but for now let us return to consider ex nihilo from the non-theistic perspective).

The atheistic scientific approach denies a priori the existence of anything other than the Cosmos, (or in the “Many Worlds” hypothesis, the Multiverse), in this case, God. Under this view, creation makes itself, there being no extrinsic or for that matter intrinsic divine agent to bring it into being. However, such spontaneous creation is never actually explained in such theories without some sort of precursor. Two favoured current theories either involve a quantum irregularity in the substrate vacuum which super-inflated like a bubble in a boiling pan of milk or the collision of two higher dimensional sheets or branes which triggered the Big Bang in the energy of their collision. None of this solves the puzzle as to why there should be a bubbling quantum foam or a system of colliding branes in the first place. The precursor may be necessary and true, but whatever “it” is, it is not nothing or non-being. The search for a First Cause or an Origin only ceases if a beginning is considered unnecessary, and then one is stuck with the brute fact of an eternal, infinitely regressive universe.

Whether or not the Universe is eternal still ignores the favourite old elephant in the corner. This is his question: – “Why is there something rather than nothing?” Science is not equipped to answer “why” questions such as this, whereas such unfathomable existential issues are “food and drink” to the philosopher and the theologian. The hubris of an all-inclusive positivism for atheist scientists enables them to claim scientifically that no such theological answers can exist in principle. That is to step beyond the boundary of empirical science itself into belief, in this case the belief we call “unbelief.” It must be recognised that there are questions and answers in life that do not submit to the scientific method because they deal with references that are by definition not measurable. Measuring my heartbeat alone will not reveal whether or not I am in love.

The great 19th Century theologian, Metropolitan Philaret of Moscow, described the conundrum of existence from a religious point of view. He describes either the terror or beauty of our existence very succinctly. The choice is stark and uncompromising: the void or God? “All creatures are balanced upon the creative Word of God, as if upon a bridge of diamond; above them is the abyss of divine infinitude, below them, that of their own nothingness.”

So far we have examined the truth claims and methods of science and religion from the shared perspective of the great Abrahamic monotheisms of Judaism, Christianity and Islam. We shall now look to the specific insights of Orthodox Christianity—a very different territory of enquiry with surprising discoveries in store.

God is both Creator and Trinity



Trinity

As we have observed, it is the transcendent majesty and glory of God, his singular unexcelled and excellent being that concerns all truly monotheistic faiths. Any conceptualisation, image or formulation concerning God in his essence or being is idolatrous and to be rejected. There can be absolutely no ontological overlap between God the Creator and Uncreated One and creation. However, to say that God is utterly distinct from creation at the level of his essence is to contribute nothing to an understanding of how he can be known by humankind through his covenanted grace, his theophanies or self-manifestations and supremely by his Incarnation in the Word made flesh (John 1:14). The Scriptures and the Tradition of

the Church teach that God manifests himself in creation without being absorbed by it or fused with it, which of course would be pantheism. By way of contrast, the Orthodox teaching that incorporates the reality of the Divine Presence is called panentheism and this received its classic formulation in the distinction made between the essence and energies of God in the works of St Gregory Palamas. The energies of God are sometimes referred to as his immanence in creation. God is not to be thought of, therefore, as only acting “from beyond.” He also (by His energies) acts from within.

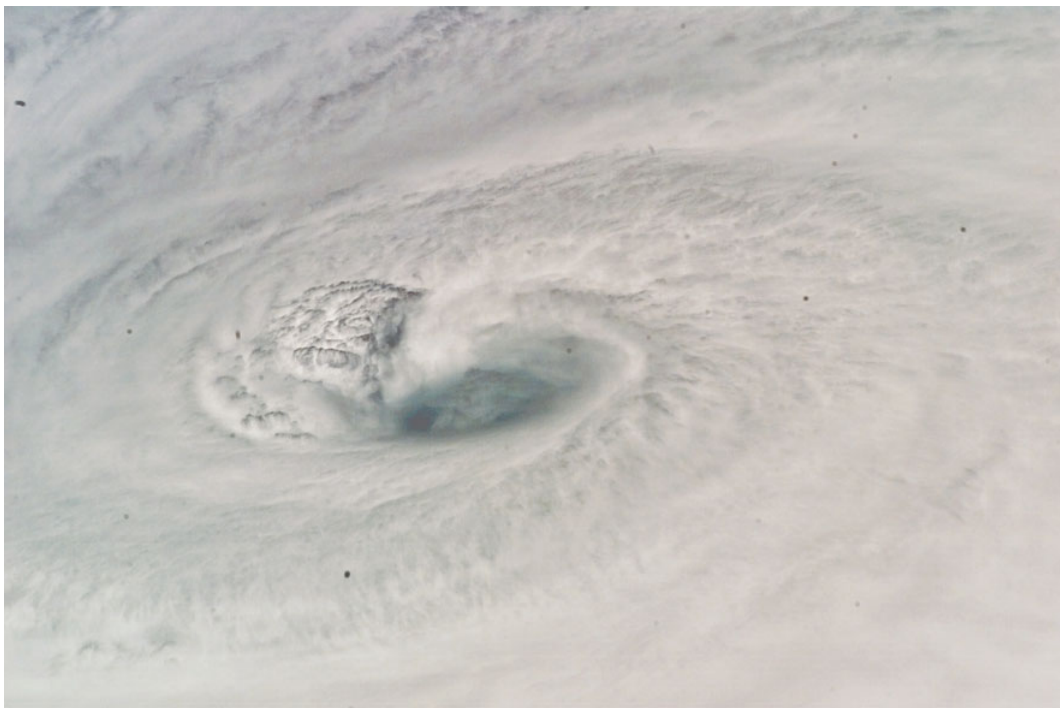
When the Jews reflected upon this immanence in the context of their own covenant experience, their sacred writings made a distinction between the Word of God and the Spirit of God. Later the Wisdom of God was added. The Word of God could be described as his powerful creative and prophetic utterance. Noteworthy in this regard is this verse from the prophecy of Isaiah:- So shall My word be that goes forth from My mouth; It shall not return to Me void but it shall accomplish what I please, And it shall prosper in the thing for which I sent it. (Isaiah 55:11) If the Word of God is that in God which brings something to fruition in a declaratory manner, the Spirit of God is that in God which imparts his life to that which his Word has brought into being. The Wisdom of God is that which may be known from both his Word and Spirit; it is in effect a term of revelation and dependent upon the other two for its operation.

When the Word became flesh in the Incarnation of Christ and later when the Holy Spirit was given to the Church at Pentecost, the Apostles learned through their own experience that this Word and the Spirit have their own distinct hypostatic or personal identities, but always in relation with each other and not as separate individualities. That which had been hinted at in the Old Covenant was fully revealed in the New Covenant; and Church Tradition was later to make sense of this in monotheistic terms by the doctrine of the Holy Trinity. St Irenaeus referred to the Word and the Spirit as the two hands of the Father (Against the Heresies, 5.6), but it was not until the Cappadocian Fathers clarified the terminology in the 4th century that the Church’s experience of the Trinity was thoroughly articulated. The only change that the doctrine of the Trinity made to traditional monotheism concerned the hypostatic distinction of both the Word and the Spirit, both between themselves and with the Father. However this distinction was not applied to the essence or being of God which remained as it always had been – a simple, undifferentiated, identical consubstantiality. In this Orthodox sense the hypostases always remained co-equal and undivided.

Against Supernaturalism

The value of the Trinity thus described is wholly compatible with a scientific account of the world in which the lineaments and workings of natural processes in space and in time are accounted for without recourse to God as a direct causal agent. If, for example, we believed that hurricanes happened because God sneezed, then what would be the point and practical advantage of meteorology?

We must say rather that the lineaments and processes of the natural order are in and of themselves signatures of the divine. These signatures cannot be shaped by a calligraphy of intelligent design without invoking the capricious intervention of an episodically active god in an otherwise chaotic and frequently fragile and dangerous evolutionary process. Such extrinsic and invasive actions of a god from beyond the Cosmos—the classic form of supernaturalism—neuter both science and theology. The divine signatures are rather to be found in the beauty, elegance and fittingness of the natural operations themselves which are both emergent in their complexity and convergent in their function. Consciousness, for example, is a fluid and dynamic artefact of emergent complexity; physiological commonality a functional convergence of evolution. Neither is a deterministic process, but each nonetheless has its own teleology (that to which it tends), notwithstanding the chaotic and random factors involved. God, then, only acts “from beyond” when, *ex nihilo*, He creates space and time itself.



The lineaments and workings of natural processes in space and in time are accounted for without recourse to God as a direct causal agent. (The eye of Hurricane Dean is shown as it moved through the Caribbean. Image Credit: NASA)

This characterisation, however, presupposes a scheme of primary and secondary

causes with God in the backseat and Nature in the front. How then is this different from deism where the God who is aboriginally involved in creation is subsequently absent or Neo-Thomism where divine intervention is a more subtly conceived additional layer of supernatural causation? The only way such a model of divine action can be different, at least in Christianity, is by building it on a radically different foundation than that which has been commonplace in the west since the Middle Ages. This foundation is neo-Patristic in that it learns from the Fathers in their engagement with Hellenistic philosophy whilst at the same time striking out with a similar method and some of their insights into the arena of this century and its concerns.

There are three theological references that we need to consider in order to make progress in constructing an old but new model of divine activity that compromises neither science nor Orthodox Christianity. These three theological references are basic and biblical—the Word of God, the Spirit of God and the Wisdom of God.

The Word of God, (that is, the Logos in Greek) and the Holy Spirit are two hypostases of the Trinity, the Father's active agents in Creation.

The Wisdom of God has often struggled to find a place in this scheme for she (in reference, feminine) certainly is not an additional hypostasis, nor the essence or energy of God but something else. Rehabilitated from ancient Christian Tradition by the sophiological school of Russian Orthodox Christian thought in the 19th and 20th centuries, Divine Sophia, Holy Wisdom is, I submit, a shared divine attribute which we can apply to ALL three hypostases or persons of the Holy Trinity in the summation of their activity in the Cosmos as one God.

I shall refer, therefore, to Wisdom in relation to each and all of the hypostases in the following account. The Father is in relation to the Son or Word and the Spirit as the timeless Source of the Trinity. He is never without them, nor they without Him. In the course of this proposal, therefore, I shall proceed in my argument from the Logos in Wisdom (from the Father alone but in the Spirit) to the Spirit in Wisdom (from the Father alone but in the Son). The Father of course timelessly imparts Wisdom both to the Son and the Spirit in their coordinated actions as One God in Creation. (I am indebted in much of what follows to Dr. Christopher Knight whose reasoning and conclusions I largely follow. The sophiological speculations are my own).

The Logos Christology

St John the Theologian in the prologue to his gospel taught that it was the Logos (the Word of God) that was active in both the creation of the Cosmos and in the

Incarnation. St. John deftly achieved two goals in his use of this Logos Christology. Firstly, he showed the universality of the Incarnation by using a term which was familiar to Jews and pre-Christian Greeks, the Logos. The Jewish diaspora in Alexandria (Philo) had already united the Hebraic concept of the Word of God (dabar) with the Hellenistic Logos, the divine seed inherent in all things. Secondly, by using a single term, the Logos, St John ensured that Christ would be received, as is His due, as the Lord of all creation. Christians such as Justin Martyr, Clement of Alexandria, and Origen continued to develop this synthesis and used it as a bridgehead for the communication of the gospel in Greek culture. Pre-Christian Greek philosophy, at this stage heavily influenced by Plato, contributed something of great value to Christianity—the means to express the inclusion of both nature and revelation as the sphere of God's action. The Church reimagined Platonism from a dualistic philosophy in which created forms were merely shadows of more substantial heavenly ideals into the Judaeo-Christian confession of the goodness of creation itself.

Important progress in the development of these ideas took place in the cosmological teaching of the seventh century Byzantine theologian, honoured in both the East and the West, St Maximus the Confessor (580-662). St Maximus explored further this idea of the logoi in all things created as manifestations of the creative Word, the Logos imparting both the inner essence and the ultimate fulfilment to one and all. In this account the Incarnation was characterised not as an abrupt intrusion or invasion of the Logos into the created order from which it was originally absent but rather the personal and particular development and refinement of an existing and universal creative presence of the Word, now united to human flesh and nature in the person of Christ. Although the Incarnation happened so that death might be destroyed and humanity with creation restored to the path of dynamic transformation, the East generally held that the Word would have been made flesh in the context of this process even if humanity had not fallen. It is after all the nature of Divine Love to make itself known through self-giving.

St Maximus, together with all the Greek fathers and their successors, had a panentheistic conception of God's immanence which harmonised ideas in both pagan and Hebraic religion without sacrificing God's transcendence. Later generations of theologians, notably St Gregory Palamas articulated this in the distinction they made between the nature or essence of God, forever transcending anything created, and his energies, also God and Uncreated, but manifest in every spacetime coordinate and in every physical and immaterial creation. After the Great Schism in 1054 when the West began to lose touch with Greek Christian culture, this vital insight was gradually lost. Later Western theologians assumed as

axiomatic the principle that God had to “move” as it were from heaven to earth when he needed to act, his presence otherwise being rather nebulous and erratic. This was the source of supernaturalism, the notion that grace had to be added to nature. This view prevailed for centuries until the Enlightenment finally dispensed with supernature leaving the west in the grip of deism or the worship of the goddess Reason. Secularisation rapidly followed as the sea of faith made its melancholic withdrawal from the public consciousness. The Christian East however continued with what we might call its theistic naturalism in which the Lord pervaded the whole of the Cosmos without the need to suspend natural laws at whim in order to achieve his purpose. Creation has complete freedom to be itself and yet at the same time there is a natural and grace-full growth in the logoi or Logos towards an end or telos in God. In the Christian West science only flourished once the Catholic Church’s inflexible intellectual control had been broken. There never seems to have been such a problem in the Christian East and for good reason. The phoney war between science and religion never broke out beyond Rome’s dominion, nor could it, the theology being radically different.

The Life Giving Spirit

The unique theological perspective of the Christian East, which the Orthodox believe to be the simple witness of Scripture and Tradition, is expressed in its understanding of the person and work of the Holy Spirit as well as the Logos. The Holy Spirit is the Life Giver, the power of creation, of revelation, of guidance, of cleansing, of renewal, of holiness, of justice and of peace. The action of the Holy Spirit in human life and the Cosmos itself is simply to bring the fullness of life to all that is latent within the logoi of created things. This, however, is not a vitalism that constitutes or replaces the energies of creation but rather that which restores and enhances these according to their divine purpose. Consider the healing of the sick. This is achieved through the skill of doctors, nurses, surgeons and drug researchers in addition to the care for the whole person manifested through pastoral support and prayer. The Holy Spirit works in and through the logoi of each means of healing, once more revealing the Wisdom of God in action, bringing everything to its proper fulfilment in Christ.

The Holy Spirit also continues to work in Creation so that in the Wisdom of God the Cosmos is transfigured and, in the case of humans who are in the divine image and likeness, deified. Again St Maximus the Confessor reveals this cosmic regeneration as possible by reaffirming a pre-Christian notion of Greek philosophy, namely that humankind is a microcosm of the Cosmos. If humanity is restored and set free by the Holy Spirit so shall the Cosmos (Romans 8:18-23). This glorious vision is not of course what we see in the world today. We have inherited the legacy of a quite

different view of the earth in which divine transformation is very far from the mind of those who are its unwitting stewards. The impact of this legacy is plain for all to see. The recovery of Earth's ecosystems will only occur when humans exercise once again an ascesis of self-restraint and live out anew their connectedness to the Cosmos. This will require a spirituality that does not see the natural world as a mere stage for unbridled human activity but rather a gift to be respected and cherished. How can this be achieved without honouring the divine logoi that inhere within all things?

I have contended that there is no conflict between Science and Religion, when each discipline is properly understood. More specifically, it should be recognized that Orthodox Christianity has developed important insights into that fine structure of the Cosmos which allows for divine action without compromising or controlling creation's freedom to move toward its goal in God. It should now be clear that both creationism and scientific atheism are dead doctrines based on a weak understanding of both science and religion. In contrast, Orthodox Christianity offers the freedom to humanity to explore the inner workings of the Cosmos, its glory and its beauty.

Manchester Metropolitan University Multicultural Studies Lecture on February 24, 2011, by Archpriest Gregory Hallam, on the subject of Science, Creation, and the Seeking of Truth in Orthodox Christian Theology, recorded by [Ancient Faith Radio](#) of [Conciliar Media Ministries](#). Posted here with permission.