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**Science and the Eastern Orthodox  
 Church: Historical and Current  
 Perspectives**

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*Current trends in Orthodox theological writing challenge the traditional Western popular perception of the Eastern variant of Christianity as little more than exotic and heretical. Nowhere is this more evident than in the increasing acceptance of and developing involvement in contemporary scientific debate. While a minority of Orthodox writers remain essentially anti-scientific in attitude and others are suspiciously cautious, there are those whose assessment of the Western science faith dialogue is altogether more positive. Indeed, Eastern Orthodox Christianity has a key role to play in developing theological responses to the sciences – responses that can be identified as having their roots in the rich heritage of Orthodoxy itself.*

**Key words:** Orthodox tradition, patristic writings, logos, natural theology, panentheism, God's immanence, pansacramentalism

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### **Introduction**

The Eastern and Western parts of the Christian world have a shared heritage in the beliefs and practices of the Christian community of the apostolic and patristic periods. From a relatively early date, however, differences of emphasis were apparent, so that, long before the Reformation in the West, there had already arisen a division between the Western 'Catholic' and Eastern 'Orthodox' forms of the faith. This division is conventionally dated to the year 1054, but stresses had appeared long before then and an unambiguous separation – something more than a temporary interruption in communion – was not clearly apparent until perhaps the time of the sack of the Christian city of Constantinople by Western crusaders in 1204. From then on, the division was seen as definitive (despite occasional attempts at reconciliation) and the Orthodox form of the faith was largely confined to those areas that had formed part of the Byzantine Empire or had been originally evangelised from that empire. For most Western Christians, Orthodoxy became little more than an exotic and heretical<sup>1</sup>

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<sup>1</sup> The main theological differences at the time of the schism lay in the Orthodox refusal to accept the papacy's own understanding of its authority and in their refusal to add the term *filioque* to the Nicene creed, as had been done in the West in order to express the Western belief that the Holy Spirit proceeds from the Father *and the Son*. (This was in fact a Western innovation, which had taken centuries to be accepted fully even in the West.) From a later protestant viewpoint, Orthodox Christianity often seemed to be little more than 'Papist superstition but without the Pope'.

'Eastern' variant of the faith, to be encountered – other than by merchants and diplomats who travelled to the East<sup>2</sup> – only among small communities of immigrants.

In the twentieth century this situation began to change. Because of larger-scale emigration from Orthodox countries, and because of the subsequent conversion to Orthodoxy of some of the natives of the countries to which these emigrants moved, the Orthodox tradition slowly became an integral part of the religious scene in many parts of the world. Despite the presence of Orthodox Christians among them, Western Christians still have often very little grasp of the theology of the Orthodox Church. They may perhaps know that it is based on a traditionalist stress on what may be seen as consonant with the Bible and with the writings of the 'Fathers' of the early centuries of the Christian era. What they are often not aware of, however, is the way in which Orthodox theologians tend to approach issues in a way that is different from that of even comparably conservative Western ones. As Timothy Ware (now Metropolitan Kallistos of Diokleia) has put it, 'Christians in the West, both Roman and Reformed, generally start by asking the same questions, although they may disagree about the answers. In Orthodoxy, however, it is not merely the answers that are different – the questions themselves are not the same as in the West.'<sup>3</sup> In particular, from the standpoint of many Orthodox commentators, two major theological developments of the late antique and medieval periods in the West – Augustinianism and scholasticism – often seem to be implicit factors in the forms of question still asked by Western theologians, including those who would not see themselves as heirs to those developments.

When it comes to the science-theology dialogue of our time, these are not the only factors that lead to differences between the approaches of Western and Orthodox theologians. A further factor is the lack, in any strand of Western Christianity, of the kind of 'cosmic vision'<sup>4</sup> that constitutes a significant component of Orthodox theology. The biblical notions of the cosmic Christ and of the creation of the cosmos through the divine *Logos* [Word], seem to Orthodox observers to be present in Western discussions only in an underdeveloped form that effectively precludes a recognition

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2 For a brief account of the reactions of some of these merchants and diplomats in the period during which contacts with the East were growing rapidly, see Knight, C. "People so beset with saints": Anglican attitudes to Orthodoxy 1555-1725', *Sobornost/Eastern Churches Review* (1988) 10:2, 25-36.

3 Ware, T. *The Orthodox Church*, Harmondsworth: Penguin (1963), p.9. On the same page, a little earlier, Ware quotes the 19th century Russian theologian Alexis Khomiakov as saying 'All Protestants are Crypto-Papists' and 'To use the concise language of algebras, all the West knows but one datum *a*; whether it be preceded by the positive sign +, as with the Romanists, or with the negative -, as with the Protestants, the *a* remains the same.'

4 This phrase is particularly used of the understanding of Maximos the Confessor (see e.g. note 23 below) who has been an increasingly influential figure in recent Orthodox writing.

of the importance of these notions for a Christian understanding of the created order.

Orthodox commentators on these issues do, admittedly, sometimes oversimplify the Western theological positions that they criticise and overstate the unanimity of their own approach. This should be borne in mind when, in what follows, I attempt to give a brief outline of the chief components of the methodology and cosmic vision that Orthodox theologians bring to the science-religion dialogue, together with an assessment of the present state of that dialogue among them. Different Orthodox Christians would inevitably put greater or lesser stress than I do here on the various aspects of the Orthodox tradition that I shall outline in an attempt to draw together what is relevant to the dialogue between science and theology.

### Natural revelation and natural theology

The first thing to note in any discussion of the Orthodox use of the natural and human sciences is that those Fathers of the church who have most influenced Orthodox theology were, in their thinking, willing to make critical use of the science and philosophy of their time.<sup>5</sup> They did not pursue a natural theology in the sense in which that term is often now understood, based on scholastic and later developments in Western theology. However, if the term *natural theology* is understood more broadly – as it has been increasingly in recent discussion<sup>6</sup> – then it may legitimately be applied to aspects of the Eastern patristic tradition in the way that it has been by historians like Jaroslav Pelikan.<sup>7</sup>

The different trajectories taken by natural theology in East and West are understandable in part in terms of the way in which any *natural theology* is linked to the broader notion of *natural religion*. This latter term has itself been understood in many different ways,<sup>8</sup> but if we speak of it in the broadest possible way – defining it in terms of the intrinsic human capacity to know something of God independently of God's revelation of himself in historical acts – then it is clear that Orthodox theology has a strong sense of this capacity, but understands it in a way that does not

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5 In relation to science, see Wallace-Hadrill, D.S. *The Greek Patristic View of Nature*, Manchester: Manchester University Press (1968).

6 See e.g. Re Manning, R. (ed.) *The Oxford Handbook of Natural Theology*, Oxford: Oxford University Press (2011).

7 Pelikan, J. *Christianity and Classical Culture: The Metamorphosis of Natural Theology in the Christian Encounter with Hellenism*, New Haven and London: Yale University Press (1993).

8 Pailin, D. 'The confused and confusing story of natural religion', *Religion* (1994) 24, 208 notes no less than eleven quite distinct uses of the term, commenting that 'in view of the complex variety of ways in which the term ... has been understood and of the fact that some of those who use it intend thereby more than one of these distinct meanings, it is not surprising that many debates about natural religion have been at cross purposes'.

correspond exactly to any position on the spectrum of Western Christian views on this issue

Here, what needs to be recognised is that in the Orthodox perspective there is neither the common protestant suspicion of the concept of natural revelation nor the scholastic assumption that such revelation acts simply to provide a sort of foundation on which to build a theology deriving from revelation in history. As Dimitru Staniloae has put it, ‘the Orthodox Church makes no separation between natural and supernatural revelation’.<sup>9</sup> (Indeed, like many modern Orthodox authors, Staniloae, in this emphasis on inseparability, actually softens the outlook on which he bases this statement – that of the seventh century author Maximos the Confessor – in which there is no ‘essential distinction between natural revelation and the supernatural or biblical one ... the latter is only the embodying of the former in historical persons and actions’.)<sup>10</sup> Those strands of Western thinking that deny natural revelation are, in Orthodox eyes, guilty of underestimating the God-given human capacity to know something of God even in the absence of revelation in historical acts, while those that affirm it – but separate it from revelation in history by seeing it as providing no more than a foundation for faith – recognise neither the scope of natural revelation nor the ways in which it can work in tandem with revelation in history.<sup>11</sup>

### Knowledge of God in the context of ‘fallen’ humanity

Behind these Orthodox reactions lie two basic theological instincts. The first is the belief that the image of God in humanity, though distorted in ‘fallen’ humanity, has not been destroyed. Orthodoxy thus retains, at least by Augustinian or Calvinist standards, a relatively optimistic view of the created, ‘natural’ human capacity to know God and to co-operate with divine grace. (It is eloquent of the contrast with most Western views that the Orthodox language of human ‘co-operation’ with God’s grace often seems, to Western theologians, to be semi-Pelagian at best.)<sup>12</sup> On the other hand,

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9 Staniloae, D. *The Experience of God: Orthodox Dogmatic Theology Vol 1: Revelation and Knowledge of the Triune God*, Brookline MA: Holy Cross Press (1968), p.1.

10 *ibid.* cf. Origen, *Commentary on John* 1:7 which speaks of ‘a coming of Christ before his corporeal coming ... his spiritual coming to those men who attained a certain degree of perfection, for whom the whole plenitude of the times was already present’. (See also note 17 below.)

11 See Staniloae *op.cit.*, (9), pp.1-22.

12 The point here is that the Christian East was at most only marginally affected by Augustine’s particular kind of stress on divine grace, rooted in his reaction against the stress on human free will in the teachings of Pelagius. Those in the West who reacted against Augustine, and were later labelled ‘semi-Pelagians’ (and treated as at least verging on heresy), were in fact often simply defending the pre-Augustinian view of co-operation with divine grace that has remained the norm in the East.

despite this comparative optimism about the human capacity to know God, Orthodox theology does stress that this capacity is distorted in fallen human nature and in need of development through spiritual practice. As we shall note in more detail presently, this is especially the case with the use of human reason in theology. For this reason, although ‘proof of God’s existence’ arguments are not entirely unknown in Orthodox theology,<sup>13</sup> they are not a strong characteristic of it; indeed the emphasis of the late-medieval Thomist tradition on various kinds of ‘logical’ inference to the existence of God – which were held to act as a set of preambles to the faith (*praeambula fidei*)<sup>14</sup> – is generally viewed as flawed. It is, in the Orthodox view, the whole human person – not just the discursive reason – that must be involved in the response to natural revelation. It is noteworthy, for example, that in contrast to the scholastic approach to ethical decision-making, the Orthodox view of ‘natural law’ focuses primarily on the conscience rather than on the logical development of a set of ethical rules.

One position on the Western spectrum of views of natural theology does, it must be said, exhibit certain parallels with an aspect of the Orthodox approach. This is the kind of thinking to be found in the work of Thomas Torrance, who expands the Barthian tradition’s rejection of the *praeambula fidei* notion by seeing certain kinds of natural theology as valid, but only when they are developed in ‘indissoluble unity’<sup>15</sup> with a theology rooted in God’s acts in history. This unity – as Pelikan’s study of patristic natural theology indicates<sup>16</sup> – does reflect a major aspect of Eastern patristic practice, even if the indissolubility proclaimed by Torrance is not always insisted on.<sup>17</sup>

The parallel between Torrance’s prescription and much of the actual practice of the Eastern Fathers has meant that some Orthodox have seen Torrance as having a significant contribution to make to their own response to the sciences. (Torrance’s admiration and use of Eastern patristic authors – especially those in the Alexandrian tradition – has reinforced this belief.) However, there is surely need for caution here. If Torrance’s work reflects a love for Eastern patristic authors like Athanasius, it also – in a way that some Orthodox commentators fail to appreciate fully – re-

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13 St John of Damascus’s *Exposition of the Orthodox Faith*, e.g., contains an argument of this kind.

14 For a modern defence of this scholastic approach, see McInerney, R.M. *Praeambula Fidei: Thomism and the God of the Philosophers*, Washington D.C.: Catholic University of America Press (2006).

15 Torrance, T.F. *Reality and Scientific Theology*, Edinburgh: Scottish Academic Press (1985), p. 40.

16 Pelikan *op. cit.*, (7).

17 See note 10 above. This Origenist understanding remained influential throughout the patristic period (despite aspects of Origen’s thinking increasingly with time being seen as heretical) and remains influential among certain modern Orthodox writers – see e.g. Sherard, P. *Christianity: Lineaments of a Sacred Tradition*, London: T&T Clark (1992), chap. 3.

flects his love of Calvin. Torrance's stress on the sovereignty of God leads him to eschew all forms of pantheism<sup>18</sup> in a way that is arguably in tension with those major strands of Orthodox thinking which – as we shall see – manifest a strong pantheistic tendency. Moreover, despite his tilting at the kind of 'deistic disjunction between God and the world' that he sees in the traditions of natural theology that he rejects, Torrance arguably manifests another kind of dualism that the Orthodox tradition avoids: one that in certain contexts stresses the transcendence of God so strongly that divine immanence is effectively ignored and is certainly devalued. (Is it a slip of the pen, one wonders, that Torrance speaks of the forms of natural theology that he rejects as attempting 'to reach and teach knowledge of God *apart altogether* from *any* interaction between God and the world'<sup>19</sup> [*my italics*] – as though ordinary natural processes have nothing at all to do with God's *real* action?)

### **Mystical theology and the incarnate Word**

Indeed, these are not the only issues that tend to separate Orthodox natural theology from even the closest Western form of it. Another important factor here is the way in which, from an Orthodox perspective, knowledge of God is far more than an understanding based on the discursive reasoning faculty (even if that faculty is used, as in Torrance's approach, solely to interpret revelatory, salvific acts of God in history.) What Torrance's work fails to appreciate fully is that such knowledge is seen, in the Orthodox understanding, as being essentially 'mystical' – not in the sense of being anti-rational, but in the more subtle sense in which the right use of reason is seen as being necessarily based on an inner, spiritual transformation. Orthodox theologians tend, with Vladimir Lossky, to recognise that Christian dogma, from the point of view of the unaided reasoning faculty, will inevitably appear as 'an unfathomable mystery'. It can be seen as coherent only if approached 'in such a fashion that instead of assimilating the mystery to our mode of understanding, we ... look for a profound change, an inner transformation of the spirit, enabling us to experience it mystically.'<sup>20</sup>

Knowledge of God is, as the Orthodox ascetic tradition stresses, based first and foremost on contemplation (*theoria* in Greek) – the perception or vision of the highest human faculty: the 'intellect' (*nous*). This intellect is not the same as the discursive reasoning faculty (*dianoia*), which is understood as functioning properly in theological analysis only if rooted in the spiritual knowledge (*gnosis*) obtainable through the intellect. When this is

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18 See comments on this in Molnar, P.D. *Thomas F. Torrance: Theologian of the Trinity*, Farnham: Ashgate (2009), p.139.

19 Torrance, *op. cit.*,(15), p.38.

20 Lossky, V. *The Mystical Theology of the Eastern Church*, Cambridge: James Clarke (1957), p. 8.

the case, an apophatic understanding of theological language arises, and as part of this there is an acceptance of a degree of antinomy that secular philosophy would usually reject. As Lossky has put it,

theology will never be abstract, working through concepts, but contemplative: raising the mind to those realities which pass all understanding. This is why the dogmas of the Church often present themselves as antinomies ... It is not a question of suppressing the antimony by adapting dogma to our understanding, but of change of heart and mind enabling us to attain to the contemplation of the reality which reveals itself to us as it raises us to God, and unites us, according to our several capacities, to Him.<sup>21</sup>

In relation to the cosmos, this is held to mean that the intellect, when purified by divine grace, provides, not knowledge *about* the creation, but rather a *direct* apprehension or spiritual perception of the inner essence or principle (*logos*) of each thing in the cosmos created by the divine Word [*Logos*]. The fact that the same word (*logos*) is used here both for the divine Word and for the inner essence or principle of each created thing is no accident. The fourth gospel's use of the notion of the divine *Logos* (John 1: 1-14) had already taken up the many different shades of meaning that this term had for the speaker of Greek,<sup>22</sup> and as time went on, this biblical subtlety was increasingly analysed by the Fathers of the eastern, Greek-speaking part of the church. As Andrew Louth has explained it, to say that the universe is created by the *Logos* entails for the speaker of Greek 'that the universe has a meaning, both as a whole and in each of its parts. That 'meaning' is *logos*; everything that exists has its own *logos*, and that *logos* is derived from God the *Logos*. To have meaning, *logos*, is to participate in the *Logos* of God.'<sup>23</sup>

## Beyond Platonism

Behind this notion, Louth continues, 'lurks the Platonic idea that everything that exists does so by participating in its form, or idea, which is characterized by its definition; the Greek for definition (in this sense) is, again, *logos*.' As he goes on to note, however, by the time these notions reached their most complex and complete Christian expression – in the seventh

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21 *ibid.* p. 43.

22 For a good brief account of the historical background to this biblical usage, see Need, S. 'Re-reading the prologue: incarnation and creation in John 1:1-18, *Theology* (2003) CVI, 395-404.

23 Louth, A. 'The cosmic vision of Saint Maximos the Confessor', in Clayton, P. & Peacocke, A. (eds.) *In Whom We Live and Move and Have Our Being: Panentheistic Reflections on God's Presence in a Scientific World*, Grand Rapids: Eerdmans (2004), p. 188.

century work of Maximos the Confessor – the Platonic character of this kind of language had already for centuries been adapted to the requirements of the Christian revelation. Because the world was seen as having been created by God through his *Logos*, ‘it could no longer be regarded as a pale reflection of the eternal reality, as in Plato’s world’.<sup>24</sup>

The early background to this particular way of focusing on the world as God’s creation is a complex one, with Irenaeus’s battle against Gnosticism and Athanasius’s attempts to solve some of the problems of Origenism significant factors. It is, however, in the late fourth century work of the Cappadocian Fathers, on which Pelikan focuses in his study of patristic natural theology,<sup>25</sup> that we see the outline of later Orthodox thinking most clearly taking shape. As Elizabeth Theokritoff has remarked, these writers, Basil the Great, Gregory of Nyssa and Gregory of Nazianzus, use the Platonist language of their day in a way that might make ‘the modern reader, to whom this language is alien ... mistake their Platonic starting point for their conclusion’. They do, she admits, ‘speak in terms of a divide between the intelligible and the sensible, and even of an “affinity” between intelligible creatures and the Godhead’. However, she insists, ‘the main thrust of their thinking is the way in which these inequalities are evened out in the Christian doctrine of creation ... It is for the sake of the whole creation that man the microcosm receives the divine inbreathing, so that nothing in creation should be deprived of a share in communion with God.’ This sense of ‘solidarity in createdness’, she goes on to note, ‘has remained a leitmotif in Eastern Christian theology’.<sup>26</sup>

Here, it is worthy of notice that this emphasis on the distinction between creator and creature has tended, in Orthodox theology, to be seen as far more important than any other distinction. In particular, a distinction between what is ‘natural’ and what is ‘supernatural’ is far less often stressed in Eastern theology than it is, for example, in Western Christian writings of the late medieval period. This tendency is in part related to the tendency, already noted, to see natural and supernatural revelation as working in tandem and therefore as being effectively inseparable. It is also in part related to the fact that, even when the concept of being ‘above nature’ (*hyper physis*) is used in Orthodox writings, it is understood in terms of a concept of nature that is subtly but vitally different from that which is common in Western medieval thought, with its separation of grace and nature,<sup>27</sup> so that the term has a rather different technical mean-

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24 *ibid.*

25 Pelikan *op. cit.*, (7).

26 Theokritoff, E. ‘Creator and Creation’, in Cunningham, M.B. & Theokritoff, E. (eds.) *The Cambridge Companion to Orthodox Christian Theology*, Cambridge: Cambridge University Press (2008), p. 65.

ing from that which in the West is associated with the term ‘supernatural’. In particular, as Vladimir Lossky has noted, the Eastern tradition ‘knows nothing of “pure nature” to which grace is added as a supernatural gift. For it, there is no natural or “normal” state, since grace is implied in the act of creation itself.’<sup>28</sup>

It should be noted that this sense of the grace inherent in the created order is not oblivious of the consequences of the Fall, which in the Orthodox tradition is strongly stressed as an existential reality, even though not necessarily interpreted as an event in history.<sup>29</sup> Indeed, as we shall note presently, some patristic writers see the ramifications of the fall as extending beyond humanity to the entire cosmos. (As I have noted elsewhere, this has interesting implications for the problems of evil and of divine action.)<sup>30</sup> Yet, just as the notion of the human fall does not for Orthodox theology imply the obliteration of the image of God in humanity, so also for this theology the ramifications of the Fall do not obliterate the way in which the cosmos is a revelation of the divine, even for the writers who speak of nature itself as fallen.

This sense of the revelation to be found in the cosmos is particularly stressed in the late fifth-, or early sixth-, century writings of pseudo-Dionysius the Areopagite, which have remained very influential in the Orthodox world. While taking up the Neoplatonist idea of the scale of being, these writings turn it into what Elizabeth Theokritoff has called ‘a structure of *theophany*, revelation of God. Its purpose is to allow each creature to reflect the divine glory in its own unique way.’ In this approach, what is envisaged is ‘a structure in which vastly incommensurate elements – angelic, human, animate and inanimate – are all held together and function as a coherent whole, focused on their Creator. And it is a cosmos shot through with the radiance of divinity. God is at once totally other, totally beyond everything that is, and in everything by the ecstatic power inseparable from himself.’<sup>31</sup>

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27 See Moran, D. *The Philosophy of John Scottus Eriugena: A Study of Idealism in the Middle Ages*, Cambridge: Cambridge University Press (1989), for a discussion of the medieval Western author who provides the main exception to this tendency. He notes in particular that Scottus followed ‘the Greeks in uniting nature and grace, which Latin philosophy had so sharply distinguished’ (p.249).

28 Lossky *op. cit.*, (20), p. 101.

29 The point here is that while the Origenist tradition was not accepted *in toto* within the patristic tradition, its sense of the Fall as pre-cosmic – as something which involved a fall into our empirical space-time universe – was often still accepted.

30 Knight, C.C. *The God of Nature: Incarnation and Contemporary Science*, Minneapolis: Fortress Press (2007), pp. 86-95; cf. Knight, C.C. ‘The fallen cosmos: an aspect of Eastern Christian thought and its relevance to the dialogue between Science and Theology’, *Theology and Science* (2008) 6, 305-317.

31 Theokritoff *op. cit.*, (26), pp.65-66, referring to Ps-Dionysius, *On the Divine Names* 4.13.

## Pantheism and pansacramentalism

This sense of God being in everything and yet totally other takes up an antinomy that is found at least as early as the work of Athanasius, for whom God has no affinity with the world in his *essence*, but by his *powers* pervades the whole cosmos. This latter concept was developed by later writers in such a way that Orthodox theology has come to stress, not only that God is in everything, but also that, in an important sense, everything is in God. This understanding – sometimes known as pantheism – is very different from the assumption, characteristic of the mainstream philosophical theism of the Christian West (at least until very recently),<sup>32</sup> that God should be seen as entirely separate from the world.

Orthodox pantheism has been expressed in two related ways. One has been to stress the notion of the *logoi* of created things in the way that we have already noted. This is especially the case in the work of Maximos the Confessor, according to whom, in the words of Metropolitan Kallistos Ware, ‘Christ, the Creator Logos has implanted in every created thing a characteristic logos, a “thought” or “word” which is God’s intention for that thing, its inner essence, that which makes it distinctively itself and at the same time draws it towards the divine realm.’ These *logoi*, he goes on, are described by Maximos ‘in two different ways, sometimes as created and sometimes as uncreated, depending upon the perspective in which they are viewed. They are created inasmuch as they inhere in the created world. But when regarded as God’s presence in each thing – as divine ‘predetermination’ or ‘preconception’ concerning that thing – they are not created but uncreated.’<sup>33</sup>

Alongside this model there exists a second, to be found in embryonic form in the writings of Clement of Alexandria and of Basil the Great and developed most systematically in the fourteenth century by Gregory Palamas. In this approach, what is central is the distinction between God’s transcendent essence (*ousia*) and his immanent energies or operations (*energeiai*). This second approach is ‘not contrary to the first but complementary. ... In his essence God is infinitely transcendent, utterly beyond all created being, beyond all participation from the human side. But in his energies – which are nothing less than God himself in action – God is inexhaustibly immanent, maintaining all things in being, animating them, making each of them a sacrament of his dynamic presence.’<sup>34</sup> This view of the relationship between the creation and its divine creator never falls into *pantheism*, the identification of God with the world, because the character-

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32 Recent Western interest in pantheism is indicated by the essays in Clayton & Peacocke (eds.) *op. cit.*, (23).

33 Kallistos Ware, Bishop of Diokleia ‘God immanent yet transcendent: the divine Energies according to Saint Gregory Palamas’, in Clayton & Peacocke (eds.) *op. cit.*, (23), p. 160.

34 *ibid.*

istic Orthodox stress on God's immanence is balanced by an equally strong stress on the utter transcendence of the divine essence, which is seen as unknowable and beyond all creaturely participation. Because of this latter stress, the Orthodox view, while panentheistic, is never pantheistic.

Over and above the implications of these two complementary models, a third factor discourages any descent from panentheism into pantheism. This is the strong sense of the ramifications of the Fall, typically expressed in the patristic era in terms of an allegorical interpretation of the 'garments of skin' given by God to fallen humans (Gen. 3:21). (Especially in the work of Gregory of Nyssa, these are seen as referring to 'the entire postlapsarian psychosomatic clothing of the human person.')

<sup>35</sup> As we have already noted, for some patristic writers the fallenness of the human being extends to the whole cosmos. The 'natural' world as we experience it is for these writers both a revelation of God and yet also profoundly 'unnatural' since it reflects the fallenness of humanity in a way that at least partially obscures the fullness of God's original and eschatological intentions for his creation. Indeed, some Orthodox writers use the term 'natural' only to signify this 'original' or 'eschatological' state, and explicitly criticise the kind of Western natural theology or natural law thinking which uncritically attempts to 'read' God's intentions from the 'unnatural', empirical world of everyday experience.<sup>36</sup>

Even for those writers who stress the 'unnaturalness' of the empirical world, however, the notion that each created thing is a reflection of the divine glory – a sacramental reality at least in potential – is still present. Interestingly, something of this stress has appeared in strands of Anglican writing too, not least in that of Arthur Peacocke, whose 'pansacramentalism', as I have called it elsewhere,<sup>37</sup> is manifested in much of his work and encapsulated in his statement that there is 'a real convergence between the implications of the scientific perspective on the capabilities of matter and the sacramental view of matter which Christians have adopted'.<sup>38</sup>

Among modern Orthodox writers, this stress has been present especially in the writings of Alexander Schmemmann and Philip Sherrard, the latter of whom has taken up the notion of the world as sacrament and related it to the specific sacraments of the church in a way that expands on Schmemmann's general notion of a sacrament as 'a revelation of the genu-

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35 Nellas, P. *Deification in Christ: Perspectives on the Nature of the Human Person*, Crestwood N.Y.: St. Vladimir's Seminary Press (1997), p. 33.

36 See e.g. Sherrard, P. *Christianity and Eros: Essays on the Theme of Sexual Love*, London: SPCK (1976), chap.1.

37 Knight, C.C. *Wrestling With the Divine: Religion, Science and Revelation*, Minneapolis: Fortress (2001), p. 18.

38 Peacocke, A. *God and the New Biology*, London: J.M.Dent & Sons 1986, p.124.

ine nature of creation'.<sup>39</sup> Because he stresses the created order's present 'estrangement and alienation from its intrinsic nature', Sherrard is able to see the sacrament as something in which 'this divided, estranged and alienated state is transcended' so that the created order's 'essential and intrinsic nature is revealed'.<sup>40</sup> For this reason he, like many Orthodox authors, refuses to speak of a particular, definitive number of sacraments, since 'everything is capable as serving as the object of the sacrament'.<sup>41</sup>

### Suspicion of science?

A major achievement of Orthodox theologians of the last century has been to express the traditional cosmic vision of Orthodox theology in ways that avoid some of the inadequacies of the attempts of the previous century to do so (e.g. the Russian sophiology project, the problems of which have been addressed from a Western perspective by the biologist-theologian Celia Deane-Drummond.)<sup>42</sup> As Elizabeth Theokritoff has noted, writers like Vladimir Lossky and George Florovsky have elucidated the Eastern patristic view of creation as a resource for current thinking, while others – Paul Evdokimov, Dumitru Staniloae, John Meyendorff, John Zizioulas, Alexander Schmemmann and Olivier Clement, to name but a few – have more recently expanded this elucidation in terms of an understanding of humanity's place in creation.<sup>43</sup>

When we look at recent work on the Orthodox understanding of creation, however, what is very noticeable is that, despite general encouragement by influential theologians like Dumitru Staniloae, very few Orthodox theologians have attempted to express their rich heritage in terms of the insights of modern science. Psychology has, admittedly, attracted interest because of the Orthodox emphasis on spiritual growth, though what is emphasized here is usually less the science itself than evident parallels with

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39 Schmemmann, A. *The Eucharist: Sacrament of the Kingdom*, Crestwood: St.Vladimir's Seminary Press (1987), pp. 33-34.

40 Sherrard, P. 'The Sacrament', in Philippou, A.J. (ed.) *The Orthodox Ethos: Essays in Honour of the Centenary of the Greek Orthodox Diocese of North and South America, Volume 1*, Oxford: Holywell Press (1964), p. 135.

41 *ibid.*, p. 133.

42 Deane-Drummond, C. *Creation Through Wisdom: Theology and the New Biology*, Edinburgh: T&T Clark (2000) may be read in certain respects as a meditation on the work of the Russian theologian Sergii Bulgakov, to whom the book is dedicated, and who in the twentieth century himself attempted to bring 19th century sophiology into line with traditional Orthodox theology.

43 For a good brief account of modern writers on this topic, see Theokritoff *op. cit.*, (26), and also Theokritoff, E. 'Embodied Word and New Creation: some modern Orthodox insights concerning the material world', in Behr, J., Louth, A. & Conomos, D. (eds.) *Abba: The Tradition of Orthodoxy in the West – Festschrift for Bishop Kallistos (Ware) of Diokleia*, Crestwood N.Y.: St.Vladimir's Seminary Press (2003), pp. 221-238.

patristic perspectives and implications for spiritual direction.<sup>44</sup> Moreover, even those who have looked at science in a broader way, such as Christos Yannaras,<sup>45</sup> have largely confined themselves to epistemological issues – and even here have tended to ignore much of the philosophy of science of the last half century. Most Orthodox theologians have no competence to deal with the sciences, of course, but this is true also of most members of the Western theological community, and yet among the latter a rich ‘dialogue between science and theology’ has existed for at least half a century. Why, we must ask, does this disparity exist, especially when the use of scientific insights was such a significant part of the patristic thinking that Orthodox Christians see as the foundation for their theology? Is it explicable, perhaps, in terms of an unbalanced stress on knowing the creation through direct contemplative experience rather than on knowing about it through human reason? Or in terms, perhaps, of a tendency among some to stress the Orthodox orientation towards ‘Tradition’ so strongly that current theology is seen as little more than a process of writing footnotes to the works of the Fathers?

However we judge this question, we need also, perhaps, to take into account sociological factors. Many Orthodox Christians lived until very recently in situations in which they were inevitably influenced by the need to react against the Marxist-Leninist version of atheism, with its supposed support from the sciences. This has meant that, even after the downfall of that ideology in their countries, many of them have tended, almost instinctively, to see science and atheism as having an intrinsic connection. In addition, at least some influential Orthodox in the West have developed a similar attitude for reasons that are susceptible to comparable sociological analysis. Especially if reacting against the recent ‘liberalisation’ of many of the mainstream Western forms of Christianity, they too may tend to associate science with the ideologies of those they perceive to be the enemies or diluters of faith. It is perhaps difficult to assess how significant these sociological factors are, but it is notable that where neither of them has been a major factor in local Orthodox ecclesial life – in Greece, for example – there often seems to have been a greater openness to scientific insights than has been evident in Orthodox communities elsewhere.

It is important to recognise, however, that if suspicion of science among some Orthodox Christians does exist, it should not be equated in its origins or effects with the superficially similar attitude of some of the ‘fundamentalist’ protestant Christians of the West. While the two groups may sometimes be comparable in sociological terms, their theological views are

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44 See e.g. Chrysostomos, Archbishop of Etna, *Orthodoxy and Psychology: A Collection of Reflections on Orthodox Theological and Pastoral Issues from a Psychological Perspective*, Etna CA: Center for Traditionalist Orthodox Studies (2004).

45 Yannaras, C. *Postmodern Metaphysics*, Brookline MA: Holy Cross (2005).

usually very different. For example, even though the historical-critical approach to Scripture has had relatively little impact in Orthodox circles, scriptural interpretation in these circles is strongly influenced by the way in which theologians of the patristic period often read the Old Testament Scriptures using an allegorical rather than a literal mode of interpretation, and with due acknowledgement of the science and philosophy of their time. This means, for example, that the creation accounts in Genesis are not usually seen by Orthodox Christians as expressing literal, 'scientific' truths about the way in which the cosmos came into being. Indeed, patristic writers such as Augustine of Hippo and Gregory of Nyssa quite explicitly set aside the literal meaning of these texts. Given this historical background, it is not science and philosophy as such that are looked at with suspicion by some Orthodox Christians, but only of what are perceived by them (rightly or wrongly) to be perverted forms of these disciplines. Neo-Darwinian insights in biology, for example, are still sometimes held to be incompatible with Orthodox faith, though advocates of these insights do seem to be becoming more numerous in the Orthodox community – a trend that has perhaps been encouraged by the observations of some Orthodox theologians that their Tradition does not preclude those insights.

Andrew Louth, for example, has commented that although Maximos the Confessor assumes with all his contemporaries that natures are fixed, his thought is still dynamic enough to be implicitly open 'to the idea of evolution ... as a way of expressing God's providence' and that his cosmic vision can 'be re-thought in terms of modern science'.<sup>46</sup> In a similarly helpful way, Panayiotis Nellas has commented that 'the essence of man is not found in the matter from which he was created but in the archetype on the basis of which he was formed and towards which he tends'. It is precisely for this reason, he goes on, that for the Orthodox understanding of creation, 'the theory of evolution does not create a problem ... because the archetype is that which organizes, seals and gives shape to matter, and which simultaneously attracts it towards itself'.<sup>47</sup>

### **A spectrum of approaches**

Despite such assurances, however, there is as yet no consensus about how to formulate a contemporary Orthodox response to the sciences in general and to neo-Darwinism in particular. Intellectual ferment in this area, characteristic of Western Christianity for several generations, has been effectively absent from Orthodox circles until relatively recently and this, coupled with the sociological factors already mentioned, means that a wide spectrum of views exists.

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<sup>46</sup> Louth *op. cit.*, (23), p. 189.

<sup>47</sup> Nellas *op. cit.*, (35), p. 33.

At one end of the spectrum is the essentially anti-scientific attitude expressed by writers like Philip Sherrard<sup>48</sup> and Seraphim Rose,<sup>49</sup> for whom the positive assessment of science implicit in the mainstream Western dialogue between science and theology represents an unacceptable dilution of Christian theology. The former of these, whose concerns about ecology and about the need for the revival of a 'sacred cosmology' are widely shared by his fellow-Orthodox, fails to perceive any validity in the distinctions commonly made between technology and pure science and between science and scientism. The latter effectively defends a kind of fundamentalism in relation to the patristic literature, an attitude that has been intelligently questioned from within the Orthodox tradition by George and Elizabeth Theokritoff.<sup>50</sup>

A more common view is that which, while not rejecting science, effectively denies the validity of the kind of dialogue between it and theology that has taken place among Western Christians over the last few generations. Often this is related to epistemological issues, which is perhaps not surprising given the kinds of understanding of the human knowledge of God that we have examined here. Of the exponents of this kind of position, Christos Yannaras, in his work on postmodern metaphysics,<sup>51</sup> perhaps represents the most sophisticated position from a philosophical perspective, while Alexei Nesteruk perhaps presents the most interesting argument from the perspective of one who, as a cosmologist, knows the sciences from the inside. While affirming science as a legitimate expression of the human spirit, he tends to bypass questions about truth in science and theology, and about the consonance or dissonance between them, by interpreting both in terms of the philosophical approach known as phenomenology. Major themes in Orthodox theological thought can, he claims, be incorporated in this approach.<sup>52</sup>

A more positive assessment of the Western dialogue is to be found in the thinking of people like Basarab Nicolescu and myself. We, while insisting that Orthodox perspectives have an important role to play in the science-theology dialogue of the future, do not reject the Western dialogue of the last half-century, with its positive attitude to science and its view that scientific insights provide genuine insights into major theological themes. Nicolescu, who in his Romanian homeland has led the first major effort to

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48 See e.g. Sherrard, P. *Human Image: World Image – The Death and Resurrection of Sacred Cosmology*, Ipswich: Golgonooza (1992).

49 See in particular Seraphim Rose *Genesis, Creation and Early Man*, Platina: St. Herman of Alaska Brotherhood (2000).

50 Theokritoff, G. & Theokritoff, E. 'Genesis and Creation: Towards a Debate', *St. Vladimir's Theological Quarterly* (2002) 26, 365-390.

51 Yannaras *op. cit.*, (45).

52 Nesteruk, A. *The Universe as Communion: Towards a Neo-Patristic Synthesis of Theology and Science*, London: T and T Clarke (2008).

develop a structured and widespread science-theology dialogue in a traditionally Orthodox country, has focused on essentially philosophical issues, taking bold and controversial strides to formulate a ‘transdisciplinary’ approach that affects not only the science-religion dialogue but every area of human thought.<sup>53</sup> In a rather different way, I have focused on theological issues, arguing that one of the main resources that Orthodoxy can bring to the current dialogue is what I call the ‘teleological-christological’ understanding of created things enunciated by Maximos the Confessor. In an updated form that acknowledges current scientific insights, I have argued, this traditional Orthodox understanding can provide a new framework – an ‘incarnational naturalism’ – within which the legitimate questions enunciated by participants in the Western dialogue, especially that about divine action, can be answered more satisfactorily than they have been when examined in a purely Western context.<sup>54</sup>

Given this range of views, the future of the Orthodox community’s response to the sciences is hard to predict with any certainty. In a tradition with such a rich and nuanced theology of creation, however, it seems likely – especially in view of the recent upsurge in interest in this area – that a new and authentic unfolding of the Orthodox heritage will arise that can speak directly to the questions and concerns of our scientific age. This work will surely be of interest, not only to those committed to that heritage, but also to Western Christians, many of whom already have a growing awareness of the need for their theology to take account of Orthodox perspectives and so, as it has sometimes been said, begin ‘to breathe with both lungs’. Indeed, the fact that Orthodox theology has such a rich, Christ-centred understanding of the divine presence in the world means that it may be in the development of a theological response to the sciences, more than in any other area, that the East can provide key insights for the West.

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53 Nicolescu, B. *Manifesto of Transdisciplinarity*, New York NY: State University of New York Press (1992).

54 Knight, C.C. *The God of Nature: Incarnation and Contemporary Science*, Minneapolis:, Fortress Press (2007).