

REALISM AND IDEALISM: CONVERGING PERSPECTIVES FROM PATRISTIC THINKING AND THE PHILOSOPHY OF PHYSICS

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This paper explores the way in which two aspects of patristic thinking seem to have parallels with understandings to be found within the philosophy of science of the present time, especially as it has developed through reflection on the physicist's understanding of the world. The first of these aspects relates to the concept of *apophaticism*, which in recent decades has been made more prominent in theological discussion through the influence of Vladimir Lossky's focus on the 'mystical' nature of Orthodox theology. Here, insights into physics within the philosophy of science – exemplified by the work of Mary Hesse and Rom Harré – are presented as particularly relevant to exploring this concept. The second of these aspects of patristic thinking relates to the philosophical concept of *idealism*, often associated with the understanding of the eighteenth-century Anglican bishop, George Berkeley, but in fact to be found in a comparable form in the patristic era. The relevance of the ancient Greek philosophical concept of the *nous* - often used by patristic authors - is emphasized in relation to both topics.

Introduction

The Eastern Orthodox tradition is based on the consensus developed within the Christian community of the patristic period, but it is not something that can be adhered to simply through familiarity with the patristic writings and professing loyalty to their content. For one thing, the writings of the Fathers sometimes reflected the mistaken secular 'knowledge' of the period in which they lived,¹ which means that there

¹ Basil the Great, for example, illustrated a (legitimate) theological understanding through the mistaken science of his time, in which it was believed that not all animals are produced by

is sometimes a need for the process that Metropolitan Kallistos of Diokleia has called separating ‘Patristic wheat ... from Patristic chaff.’² For another, the concepts used in these writings may sometimes be understood in a way that mistakes the theological intention behind their use.³ These factors underline the importance of Georges Florovsky’s observation that to ‘follow the Fathers does not mean simply to quote their sentences. It means to acquire their *mind*.’⁴ This observation suggests, I have argued elsewhere, that there is a sense in which Anselm’s concept of theology as ‘faith seeking understanding’ may, in the Orthodox context, profitably be explored in terms of the notion of ‘Tradition seeking understanding.’⁵ What is central to the Fathers’ mind is not, in this perspective, their words as such, but what I have called their *spiritual instinct*: the noetic perception that constituted the foundation on which their verbal constructions were built.⁶

In this paper I shall explore the way in which two aspects of this patristic spiritual instinct seem to have parallels with understandings to be found within the philosophy of science of the present time, especially as it has developed through reflection on the physicist’s understanding of the world. The first of these aspects relates to the concept of *apophaticism*, or negative theology, which in recent decades has been made more prominent in theological discussion through the influence of Vladimir Lossky’s focus on the ‘mystical’ nature of Orthodox theology.⁷ Here, I shall argue, insights into physics within the philosophy of science – exemplified by the work of Mary Hesse and Rom Harré – are particularly relevant to exploring this concept.

parents; he cites grasshoppers, small insects, mice, frogs and eels as creatures that come into existence spontaneously from the earth (Basil the Great, *Hexameron* IX.2).

² Timothy Ware [later Metropolitan Kallistos of Diokleia], *The Orthodox Church* (Harmondsworth: Penguin, 1957), 212.

³ See Christopher C. Knight, *Science and the Christian Faith: A Guide for the Perplexed* (Yonkers: St. Vladimir’s Seminary Press, 2020) 64–65, where the example is given of the way in which the term ‘nature’ has been understood in different ways by proponents and opponents of the Chalcedonian ‘two natures’ way of understanding Christ’s humanity and divinity.

⁴ Georges Florovsky, ‘The Ethos of the Orthodox Church,’ *Ecumenical Review* 12 (1960):188.

⁵ Christopher C. Knight, ‘Tradition Seeking Understanding: Orthodoxy, Nature and Modern Science’; in Christopher C. Knight and Alexei V. Nesteruk, eds. *Eastern Orthodox Christianity and the Sciences: Theological, Philosophical and Scientific Aspects of The Dialogue* (Turnhout: Brepols, 2021) 19–32.

⁶ For discussion of this concept of ‘spiritual instinct’ in relation to the patristic witness, see Knight, *Science and the Christian Faith*, 64–66.

⁷ Vladimir Lossky, *The Mystical Theology of the Eastern Church* (Cambridge: James Clark, 1957).

The second of these aspects of the patristic spiritual instinct relates to the philosophical concept of *idealism*, often associated with the understanding of the eighteenth-century Anglican bishop, George Berkeley, but in fact to be found in a comparable form in the patristic era. Here, the comment of the astrophysicist, James Jeans – that in the context of modern physics the universe now ‘looks more and more like a great thought rather than a great machine’⁸ – provides the starting point for the scientific component of the exploration that I shall present.

Apophaticism and the nous

I shall begin, then, with an exploration of apophaticism, but not – at least initially – in terms of the usual distinction that is made between *apophatic* theology, which proceeds by negations, and *cataphatic* theology, which proceeds by affirmations. Instead, I shall begin with a concept that has been important for the science-theology dialogue ever since Ian Barbour’s pioneering work in the second half of the twentieth century: that of *critical realism*. Barbour saw this concept as relevant to the interpretation of the languages of both science and theology, arguing that the role of models and analogies in both languages⁹ points towards the way in which both can be seen as making ‘tentative ontological claims that there are entities in the world something like those postulated.’¹⁰

The scientific realism behind this understanding is ‘critical’ in the sense that it recognises that, in the history of physics, changes in the supposed ontology of the world have sometimes occurred, so that we must reject the naïve realism often held in the nineteenth century, which assumed an exact correspondence between the entities postulated by scientific theory and the entities actually existing in the world. While this observation is clearly valid, however, we should arguably be wary of the way in which these historical developments have often been interpreted by participants in the science-theology dialogue in terms of what may be a simplistic interpretation of Karl Popper’s sense of

⁸ James Jeans, *The Mysterious Universe* (Cambridge: Cambridge University Press, 1930), 137.

⁹ Ian G. Barbour, *Issues in Science and Religion* (London: SCM, 1966) 156–174; 216–218.

¹⁰ Ian G. Barbour, *Religion in an Age of Science: The Gifford Lectures 1989–1991*, Volume 1 (London: SCM, 1990), 43.

‘increasing verisimilitude’ in the development of scientific theory. In a way that arguably oversimplifies what Popper himself claimed, many of these participants have presumed that scientific theory truly points to what the world consists of – to its ontology – and that successive theories do so ever more accurately. There are, however, a number of problems associated with this understanding, which have been debated by philosophers but largely ignored by the dialogue’s participants.¹¹

One of these problems is that scientific theory changes sometimes involve major changes in ontological description, which are hard to see as consonant with the notion of increasing ontological verisimilitude. Moreover, as Thomas Kuhn has noted, in two successive changes there may not even be a continuous direction of change. Kuhn, on the basis of this and other considerations, took up a sceptical stance in relation to scientific realism, especially in its ontologically-focused form, declaring that ‘the notion of a match between the ontology of a theory and its ‘real’ counterpart in nature now seems to me illusive in principle.’¹² However, while Kuhn’s stance has sometimes been interpreted as ‘anti-realist,’ this may be a simplistic interpretation of his views,¹³ and certainly the majority of philosophers of science have not taken an anti-realist stance. Working scientists usually feel quasi-instinctively that their theories genuinely point to the way the world really is, and the majority of philosophers would agree that, unless this were the case, the extraordinary success of the sciences – practical as well as theoretical – would be inexplicable.¹⁴

Some of these philosophers have, nevertheless, suggested that a coherent scientific realism must not only be a ‘critical’ realism that takes account of changes in scientific understanding, but should also cease focusing on the ontology of entities. Mary Hesse, for example, in her understanding of physics, has argued for what she calls *structural realism*. It is, she says, ‘undeniable that mathematical structures become

¹¹ For a recent examination of philosophers’ discussions of this topic, see Graham Oddie, ‘Truthlikeness’, *The Stanford Encyclopedia of Philosophy* (Winter 2016 Edition), ed. Edward N. Zalta, URL = <<https://plato.stanford.edu/archives/win2016/entries/truthlikeness/>>.

¹² Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: Chicago University Press, 1962), 206-207.

¹³ See section 7 (‘Historical Challenges to Scientific Realism’) in Michael Liston, ‘Scientific Realism and Antirealism’, *Internet Encyclopedia of Philosophy* – <https://iep.utm.edu/sci-real/>.

¹⁴ For an account of recent philosophical debate on this issue, see Liston ‘Scientific Realism and Antirealism’.

ever more unified and universal with every advance in theory; the structural realm of physics is truly progressive.' However, she observes, 'the substantial description of what the structures relate changes radically from theory to theory.'¹⁵ We should, she suggests, be realists about the structures that science claims to reveal but not about the ontology that is assumed in the description and investigation of these structures.

A comparable understanding arises from the work of Rom Harré on what he calls *referential realism*, in which two modes of scientific reference are distinguished. The first – as in the statement 'this grey powder is a sample of gallium' – requires, as he puts it, simply the ability to 'pick out a figure from a ground.' The second – as in the statement 'whatever is the cause of these bubbles is a neutrino' – involves the cognitive act of conceiving and accepting a theoretical account of the possible causes of an observed phenomenon.¹⁶ The importance of this distinction, he suggests, is that the latter mode of reference – which he regards as being as legitimate as the first – is in practice often uncritically translated by physicists into the first kind of referential statement through an essentially arbitrary ontological assumption. He gives the example of the neutrino and the cloud chamber bubbles that first revealed its existence. There is, he argues, nothing in the formal referential statement – 'whatever is the cause of these bubbles is a neutrino' – that makes it necessary to conceive the neutrino as it is usually conceived: as a particle. (Indeed, he notes, there exists an alternative metaphysics in the understanding advocated by the quantum physicist, David Bohm.)¹⁷ 'The logical grammar of the ... referential format' Harré argues, 'is neutral. It is the conservative metaphysical predilections of physicists that push the ontology that way.'¹⁸

Arguments of this kind – for some reinforced by the notion of 'ontological relativity' developed by W. V. Quine¹⁹ – suggest that we

¹⁵ M. B. Hesse, 'Physics, Philosophy and Myth', Physics, *Philosophy and Theology: A Common Quest for Understanding*, eds. R. J. Russell, W. R. Stoeger and G. V. Coyne (Vatican City State: Vatican Observatory, 1988), 188.

¹⁶ Rom Harré, *Varieties of Realism: A Rationale for the Natural Sciences* (Oxford: Basil Blackwell, 1986), 101ff.

¹⁷ David Bohm, *Wholeness and the Implicate Order* (London: Routledge & Kegan Paul, 1980).

¹⁸ Harré, *Varieties of Realism*, 316.

¹⁹ W. V. Quine, 'Ontological Relativity', in *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969), 26-68.

should be wary of accepting the ontologically-focused kind of critical realism that many participants in the science-theology dialogue speak of as a proper interpretation of the status of scientific theory. However, this justifiable wariness should not be taken to imply that it is not possible to defend the referential success of scientific theory. Rather, it suggests that a kind of radically modified critical realism – abandoning even ‘tentative’ claims about ontology and in their place positing valid *reference* – might be the best way forward in the debate about the nature of scientific understanding. According to this modified understanding of scientific critical realism, we can legitimately explore the structure of the world and validly *refer* to aspects that world, but at the same time must be extremely wary of thinking that we have a grasp of the world’s ontology.

Many participants in the science-theology dialogue – following Barbour’s notion of the parallels between theological and scientific rationality – have seen scientific critical realism as having implications for how we should understand the realism of theological language. However, they rarely acknowledge the kind of modification to scientific critical realism that the work of philosophers such as Hesse and Harré suggests is necessary, and therefore fail to see how this modification, if applied to theological as well as to scientific language, may be important in reinforcing a view of theological language that is characteristic of Eastern Orthodox understanding.

Particularly in the form of it expounded by Valdimir Lossky, this Orthodox view of theological language manifests a different understanding to any to be found in most Western theological traditions. This view is rooted in a number of patristic writings, especially those of the Cappadocian Fathers and those now usually called pseudo-Dionysian (since the ancient attribution of them to Dionysius the Areopagite, mentioned in the Acts of the Apostles (17:34), is no longer taken seriously.) This view makes a distinction between two theological paths: that of *cataphatic* or positive theology, which proceeds by affirmations, and that of *apophatic* or negative theology, which proceeds by negations. Lossky notes that in Western theology these two ways – even when acknowledged²⁰ – tend in practice to be reduced

²⁰ This Western acknowledgment is clear, for example, in those strands of the mediaeval Western thinking that were influenced by the writings attributed to Dionysius the Areopagite,

to one, simply making negative theology a corrective to affirmative theology. The Orthodox understanding, Lossky suggests, tends to have a different and more radical understanding of the importance of apophaticism, so that cataphatic affirmations are seen primarily as providing a kind of ladder towards an increasingly contemplative and non-conceptual knowledge of God.²¹ What this kind of understanding leads to is recognition that the concepts we form 'in accordance with the understanding and the judgement which are natural to us, basing ourselves on an intelligible representation, create idols of God instead of revealing to us God Himself.'²² The terms that we apply to God in cataphatic theology are not, says Lossky, 'rational notions which we formulate, the concepts with which our intellect constructs a positive science of the divine nature'. Rather, they are 'images or ideas intended to guide us and fit our faculties for the contemplation of that which passes all understanding'.²³

Behind this Christian apophaticism – parallels to which may be found in strands of the Islamic tradition²⁴ – lies the way in which, in the Greek patristic understanding (and especially in its later use within the Byzantine hesychast tradition) knowledge of God is far more than an understanding based on the discursive reasoning faculty. This knowledge must be based first and foremost on contemplation (*theōria* in Greek,) which is seen as the perception or vision of the highest human

particularly after a translation of those writings into Latin (produced by John Scotus Eriugena in 862) became influential in the twelfth century. However, in later thinking there was a tendency to treat 'mystical theology' as a specialised 'branch' of theology rather than as what Lossky urges: the overarching context for all theology.

²¹ Lossky, *The Mystical Theology of the Eastern Church*, 40.

²² Ibid, 33.

²³ Ibid, 40.

²⁴ The Arabic term for 'negative theology' is *lahoot salbi*, and its practice involves the use of *ta'til*, which means 'negation'. It is particularly characteristic of Shi'ite Islam. God is seen in this tradition of thinking in terms of 'two ontological levels', the first of which is that of the Essence (*dāt*). This essence – in much the same way as in the Orthodox Christian understanding of the divine essence (*ousia*) – is said to be 'forever inconceivable, unimaginable, above all thought, beyond all knowledge. It can only be described by God through revelations and can only be apprehended by a negative apophatic theology.' However, if things were to remain so, no relation would be possible between the Creator and His creatures according to this Islamic understanding. Thus, in that understanding, 'God, in his infinite grace, lets blossom in his own being another level: of Names and Attributes (*asmā' wa ṣefāt*) by which He reveals himself and makes himself known. This revealed level, recalling the *Deus revelatus* of Christian theology, is no longer God the Unknowable, but God the Unknown who aspires to be known. It is the exoteric, manifest, revealed level of God that can be known in Him.' ('Shi'ite Doctrine' article in the online Encyclopaedia Iranica <http://www.iranicaonline.org/articles/shiite-doctrine> retrieved 15th April 2020).

faculty, the ‘intellect’ (*nous*).²⁵ This faculty – spoken of in strands of Islamic as well as of Christian writing²⁶ – is essentially intuitive in its operation, so that it is not the same as the discursive reasoning faculty (*dianoia*), the latter understood as functioning properly in theological analysis only if rooted in the spiritual knowledge (gnōsis) obtainable through the intellect.²⁷ (As I have argued elsewhere, this implies that the use of philosophy in the theological task must be understood by Orthodox Christians in a different way to that which is common within many Western Christian traditions, and this applies particularly to the concept of ‘natural theology.’)²⁸

Sometimes, the radical apophaticism of Orthodox theological writers is expressed by them only in terms of the recognition that we cannot straightforwardly apply to God categories comprehended in relation to created things. However, in the patristic period apophaticism was sometimes understood more broadly. For Basil the Great, in particular, it was (as Lossky notes) ‘not the divine essence alone but also created essences that could not be expressed in concepts. In contemplating any object we analyse its properties; it is this which enables us to form concepts. But this analysis can in no case exhaust the content of the object of perception.’ There will always remain a kind of ‘residue, which escapes analysis and which cannot be expressed in concepts, it is the unknowable depth of things, that which constitutes their true, indefinable essence.’²⁹ Over and above the modern philosophical arguments about the ontology of created things that I have outlined, this Basilian view challenges the simplistic critical realism that is characteristic of the science-theology dialogue by pointing towards

²⁵ For an analysis of this concept in terms of modern scientific understandings, see Christopher C. Knight, ‘The Human Mind in This World and the Next: Scientific and Early Theological Perspectives’, *Theology and Science* 16 (2018): 151-165.

²⁶ This is especially the case in those strands of Islamic thinking that are attentive to the usage of early Islamic philosophers such as Al Farabi, Avicenna and Ibn Rushd.

²⁷ See e.g., the brief discussion of all these terms given in the “glossary” section of *The Philokalia*, Vol. 1, eds. G. E. H. Palmer, Philip Sherrard and Kallistos Ware (London and Boston: Faber and Faber, 1979), 357-367. There may, however, be a tendency in this glossary to suggest a uniformity of usage that is in fact not to be found in the texts of the *Philokalia*.

²⁸ Christopher C. Knight, *Eastern Orthodoxy and the Science-Theology Dialogue* (Cambridge: Cambridge University Press, 2022) 5-16; c.f. Christopher C. Knight, “‘Analytic’ Natural Theology: Orthodox or Otherwise?”, *St. Vladimir’s Theological Quarterly* 65 (2021): 57-85; Christopher C. Knight, ‘Natural Theology: Complementary Perspectives from the Science-Theology Dialogue and the Eastern Orthodox Tradition’, *Philosophy, Theology and the Sciences* 8 (2021): 259-284;

²⁹ Lossky, *The Mystical Theology of the Eastern Church*, 33.

what we might call *apophatic critical realism*, which acknowledges that while we can validly *refer* to both God and created things, there are aspects of both that are unknowable by us in conceptual terms, so that we must be extremely wary of thinking that our words can ever circumscribe their reality.

In the Western science-theology dialogue, it has perhaps been Arthur Peacocke who has, at least in an embryonic way, been most aware of this kind of perspective, since he has recognised that models in both science and theology 'are concerned less with picturing objects than with depicting processes, relations and structures (i.e. patterns of relationship.) What matter is 'in itself' and what God is 'in himself' are left as unknown and unknowable.'³⁰ Here, his attitude has been influenced by Janet Martin Soskice's way of understanding religious language in terms of the way in which its metaphorical nature provides genuine *reference*. What Soskice perceptively analyses³¹ is the way in which religious language usage may be clarified in terms of the theory of reference developed (in a non-theological context) by philosophers such as Hilary Putnam and Saul Kripke.³² Nevertheless, as I have discussed elsewhere,³³ while Soskice makes some important observations about the concepts of 'real essences' and 'natural kinds' used within the philosophical theory of reference that she adopts, both she and Peacocke fail to develop their embryonic insights into the kind of *apophatic critical realism* in which there is as – for Basil the Great – something about both God and created things that escapes analysis and cannot be expressed in concepts.

The 'Mind of God'

In relation to created things, one aspect of this 'escape' is the avoidance, in an important strand of patristic thinking, of the kind of materialism

³⁰ Arthur Peacocke, *Intimations of Reality: Critical Realism in Science and Theology* (Notre Dame, IN, University of Notre Dame Press, 1984) 42.

³¹ Janet Martin Soskice, *Metaphor and Religious Language* (Oxford: Clarendon, 1985). Peacocke's reference was, however, to her doctoral thesis since this book – based on that thesis – had not yet been published at the time of his own *Intimations of Reality*.

³² For an introduction to this approach, see Stephen P. Schwartz, *Naming, Necessity, and Natural Kinds* (Ithaca, NY: Cornell University Press, 1973).

³³ Christopher C. Knight, *Wrestling With the Divine: Religion Science, and Revelation* (Minneapolis, Fortress, 2001) 97-105.

that views the real essence of a physical substance in terms of some aspect of the created world. (For Kripke, for example, this essence is to be understood in terms of its chemical composition.) For an important component of Orthodox understanding, however, any such aspect of the created world is no more than an 'outward' aspect of what that substance is in the 'mind of God.' A patristic figure who is particularly relevant here is one who has clearly influenced Lossky's apophaticism. This is Gregory of Nyssa, whose thinking - as Joshua Schooping has shown - exhibits interesting parallels, not only with Berkeleyan idealism but also with the thinking of the physicist, David Bohm, about questions arising from quantum mechanics.

Gregory was not, of course, attempting to answer the questions addressed by Bohm, but to answer a question much asked in his own time: that of how an immaterial principle, God, could create the material universe. As George Karamanolis puts it, Gregory's answer to this question was 'that the question itself is misguided, because the world is not material at all.' Rather, for Gregory, the world 'is constituted of reasons or qualities ... which are generated in the divine mind and are recognised in the human mind. This does not mean that Gregory denies the existence of material entities. All he denies is the independent existence to matter.'³⁴

Gregory's understanding, Karamanolis explains, is based on the notion that what ultimately exists is a set of mental realities that relate to the qualities we perceive in created things. For Gregory these exist - and always have existed - in God's mind. God, he says, 'established for the creation of beings all things through which matter is constituted: light, heavy, dense, rare, soft, resistant, humid, dry, cold, hot, colour, shape, outline, extension. All these are in themselves concepts [*ennioai*] and bare thoughts [*psila noemata*]. None of them is matter on its own, but they become matter when they combine with each other.'³⁵

As Karamanolis notes, this focus on qualities is 'not an ad hoc answer to the question of the nature of matter but rather part of a fairly sophisticated theory that permeates Gregory's entire work.'³⁶ In some of his works, Gregory calls these qualities *logoi* - 'words' or logical

³⁴ George Karamanolis, *The Philosophy of Early Christianity* (Durham: Acumen, 2013), 106.

³⁵ Quoted by Karamanolis, *ibid.*, 102.

³⁶ Karamanolis, *ibid.*, 102.

principles. For Gregory, ‘none of the things that pertains to the body on its own [is] a body, not shape, not colour, not weight, not extension, not size, nor any of the other things regarded as qualities, but each of them is a logos and their combination and unity with each other makes a body [...] these qualities which complement the body are grasped by the intellect and not by sense perception.’³⁷ In this passage, Karamanolis observes, ‘Gregory makes clear that bodies are intelligible to the extent that they are made up of intelligible entities, the qualities or *logoi*, which are hosted by the divine intellect but also by the human intellect. While creation of sensible, corporeal entities amounts to the combination of the *logoi* of God, we, humans, in turn get to know these entities by combining the *logoi* that make them up.’³⁸

This ancient philosophical framework does not, of course, have much appeal for many present-day Christians, and it may well be that its idealistic aspect now needs to be expressed in different terms. However, we need to recognise that the theological thinking of Gregory – like that of all creative theologians in all periods – was inevitably expressed in terms of the philosophy of the writer’s own time. (As A. N. Whitehead once put it, there exist ‘fundamental assumptions’ in any epoch and culture, which ‘adherents of all the various systems within the epoch unconsciously presuppose ... [since] no other way of putting things has ever occurred to them.’)³⁹ It is often only from the perspective of a later period that we can begin to make a distinction between what is central to what is being expressed – the ‘spiritual instinct’ of which I have already spoken – and the philosophical framework and (sometimes flawed) reasoning through which that instinct has been expressed. The philosophical framework that Gregory adopted and adapted may for many have little appeal now, but the quasi-idealist spiritual instinct that he seems to want to express arguably remains an interesting one, not least – as we have already noted – because of the idealist strand of thinking among early twentieth century physicists, summed up in James Jeans’s comment that the universe now ‘looks more and more like a great thought rather than a great machine’.⁴⁰

³⁷ Quoted by Karalanolis, *ibid.*, 104.

³⁸ *Ibid.*

³⁹ A. N. Whitehead, *Science and the Modern World* (New York: Mentor Books, 1948) 49–50.

⁴⁰ James Jeans, *The Mysterious Universe* (Cambridge: Cambridge University Press, 1930), 137.

Admittedly neither Jeans nor Arthur Eddington – a fellow astrophysicist with similar idealist leanings – had any formal philosophical training, and this made it relatively easy for Susan Stebbing, who did have such a training, to demonstrate the philosophical shortcomings of their writings on this topic.⁴¹ This kind of criticism was, indeed, such that later scientists – even if their instincts were of an idealist kind – became wary of trespassing on philosophical territory. That theological scholars should have followed scientists in this wariness is, however, less easily understandable, except perhaps in terms of the common misunderstanding of the views of the most famous idealist of the modern era, the eighteenth century Anglican bishop, George Berkeley. This misunderstanding has been pointed out by Keith Ward, who has analysed the way in which people like John Polkinghorne, in their judgment that we need to avoid ‘retreating into Bishop Berkeley’s idealist castle’,⁴² in fact take up a stance that does not sit easily with classical Christian theism.

Ward explains that Berkeley did not claim – as many think he did – that ‘physical objects do not exist, and that everything is in human minds, so that the world disappears when humans are not looking at it.’ This view may constitute one form of idealism but, as Ward comments, to assume that Berkeley thought in this way is ‘a complete misunderstanding’. Berkeley, in assuming that physical objects cannot exist without some perceiving mind, was, says Ward, essentially saying that ‘if there is a physical world independent of humans, it must exist in the mind of God ... though not exactly as it is perceived by humans.’ This position is, he observes, certainly idealist in the sense that matter ‘exists as the content of mental acts, and could not exist on its own.’ Nevertheless, he goes on, this position ‘is not very far, if it is any distance at all, from classical Christian theism’, since the Christian believes that ‘God who is not material, can exist without a material universe, but matter cannot exist without God. If God is anything like a mind – and God is said to know, to act, to have purposes and to be wise – then Christians must believe that mind can exist without matter.’⁴³

⁴¹ L. Susan Stebbing, *God and the Physicists* (Harmondsworth: Penguin, 1937).

⁴² John Polkinghorne, *One World: The Interaction of Science and Theology* (London: SPCK, 1986), 109.

⁴³ Keith Ward, ‘Bishop Berkeley’s Castle: John Polkinghorne on the Soul’, in *God and the Scientist: Exploring the Work of John Polkinghorne*, eds Fraser Watts and Christopher C. Knight

There are, it must be said, theological aspects of Ward's arguments in favour of idealism at which Orthodox Christians might look askance, and I have discussed these elsewhere.⁴⁴ Nevertheless, the very fact that his view exhibits real parallels with Gregory of Nyssa's understanding indicates that Gregory's views are still worthy of interest in modern philosophical terms, even if we also need to recognise that we must address the way in which they will inevitably seem problematical for the scientifically-literate scholar of the present day.

Can a version of Gregory of Nyssa's view be held today?

One of the problems that presents itself in this respect is Gregory's stress on 'qualities' of a kind that we now think of as the outcome of factors explicable by 'laws of nature' rather than as things in themselves or mental ideas. (Colours, for example, we see in terms of particular distributions of intensity of electromagnetic radiation at various wavelengths.) However, this problem is not entirely destructive of Gregory's picture since, if we put aside (as we must) his *specific* examples of what he calls qualities or *logoi*, it is still possible to interpret these *logoi* as incorporating what we now call the laws of nature and the inner essences of created things. This will especially be the case if we take into account the later expansion of the notion of *logoi* to be found in the work of Maximus the Confessor,⁴⁵ for whom the *logos* of each created thing is seen as being, in some sense, a manifestation of the divine *Logos* [Word] through which, in the beginning, 'all things came into being' (John 1:3). This understanding of the *logoi* of created things is clearly related to our current understanding of inner essences and the laws of nature since for Maximus – as one recent commentator has put it – 'Christ the creator Logos has implanted in every thing a characteristic

(Farham: Ashgate, 2012) 127.

⁴⁴ See Knight, *Science and the Christian Faith*, 109-111.

⁴⁵ Maximus has evoked a great deal of interest in recent decades in both Orthodox and Western Christian communities, with significant studies including: Paul Blowers, *Maximus the Confessor: Jesus Christ and the Transfiguration of the World* (Oxford: Oxford University Press, 2016); Nikolaos Loudovikos, *A Eucharistic Ontology: Maximus the Confessor's Eschatological Ontology* (Brookline: Holy Cross, 2010); Andrew Louth, *Maximus the Confessor* (London and New York: Routledge, 1996); Lars Thunberg, *Microcosm and Mediator: The Theological Anthropology of Maximus the Confessor* (Chicago and La Salle: Open Court, 1995); Hans Urs Von Balthasar, *Cosmic Liturgy: The Universe according to Maximus the Confessor*, 3rd ed. (San Francisco: Ignatius Press, 1993).

logos, a 'thought' or 'word' which is God's intention for that thing, its inner essence which makes it distinctively itself'.⁴⁶

A second aspect of Gregory's understanding that may seem problematical to us is his focus on the human mind as what makes perception possible. At first sight, this focus seems to ignore the sense perception that is so important to the usual understanding of scientific objectivity. However, we need to recognise that Gregory's anthropology is one in which the what he calls the soul proper (*kyrios psyche*) or true soul (*alethes psyche*), while intellectual in nature, mixes with our material nature *through* the senses. For Gregory, it is not the senses that perceive, but rather the *nous* that perceives through the senses. Even from a purely scientific perspective, we should not dismiss this notion, since we can see clear reflections of it in the modern psychology of perception, which stresses the way in which our perceptions rely not just on our sensory capacities but also on the mind's way of interpreting the data that comes through those capacities. In Gregory's understanding, however, we find something more distinctly philosophical and theological than this. He believes, as Karamanolis puts it, that 'the intellect, nous, pervades all sense organs and permeates the entire body and renders the entire human nature rational, and in this sense, similar to God'.⁴⁷ This understanding is, as Karamanolis notes, rooted in the secular philosophy of Gregory's time, displaying 'striking affinities with the views of Plotinus and Porphyry'.⁴⁸

This ancient philosophical framework does not, of course, have much appeal to many present day Christians. However, we need to recognise that the theological thinking of Gregory – like that of all creative theologians in all periods – is inevitably expressed in terms of the philosophy of the writer's own time.⁴⁹ It is often – as we have already noted in the context of Whitehead's comments – only from the perspective of a later period that we can begin to make a distinction

⁴⁶ Kallistos Ware, Bishop of Diokleia, 'God Immanent yet Transcendent: The Divine Energies according to Saint Gregory Palamas', in Philip Clayton and Arthur Peacocke, eds., *In Whom We Live and Move and Have our Being: Panentheistic Reflections on God's Presence in a Scientific World* (Grand Rapids: Eerdmans, 2002), 160.

⁴⁷ Karamanolis op.cit. 212 referring to Gregory of Nyssa, *De hom.opif.* 140A.

⁴⁸ Karamanolis op.cit., 105.

⁴⁹ In the context of science, A. N. Whitehead, in his *Science and the Modern World* (New York: Mentor Books, 1948) has put it this way: that there exist 'fundamental assumptions' in any epoch and culture, which 'adherents of all the various systems within the epoch unconsciously presuppose ... [since] no other way of putting things has ever occurred to them' (49f).

between what is central to what is being expressed – the theological ‘instinct’ of which I have spoken – and the philosophical framework and (sometimes flawed) reasoning through which that instinct has been expressed. The philosophical framework that Gregory adopted and adapted may for many have little appeal now, but the idealist spiritual instinct that he seems to want to express arguably remains an interesting one for three reasons, quite apart from the fact that (for those who use the concept of *nous*) any ‘spiritual instinct’ will be valid when its origins lie in the perception of the enlightened *nous*.⁵⁰

One of these reasons is that – as we have noted in the context of Karamanolis’s and Schooping’s observations – there are clear resemblances between Gregory’s understanding of reality and the much later understanding of George Berkeley,⁵¹ which has been defended by Keith Ward and others as consonant with modern scientific perspectives. The second is that even if the human mind should, at one level, be seen as an emergent property of matter, it has characteristics that do not straightforwardly fit into the usual emergentist and evolutionary frameworks. Our abstract mathematical ability, for example, has often been seen as something that is difficult to fit into the framework provided by evolutionary psychology in its usual ‘blind watchmaker’ form, since that ability seems to go far beyond what was appropriate for the survival of our ancestors,⁵² and may be seen as indicating an affinity between the human mind and the mind of God.⁵³ The third

⁵⁰ This notion of how true theology has its origin in the enlightened *nous* is central to the current Eastern Orthodox understanding of natural theology. See Christopher C. Knight, ‘Natural Theology and the Eastern Orthodox Tradition’, in Russell Re Manning, ed. *The Oxford Handbook of Natural Theology* (Oxford: Oxford University Press, 2013), 213–226.

⁵¹ Karamanolis himself actually sees more resemblances in certain respects to the perspectives of John Locke. However, other historians of philosophy have seen Gregory much more in terms of his anticipation of the Berkeleian understanding. See e.g. the different views expressed in: Darren Hibbs, ‘Was Gregory of Nyssa a Berkeleian Idealist?’, *British Journal of Philosophy* 13 (2005) 425–35; Jonathan Hill, ‘Gregory of Nyssa, Material Substance and Berkeleian Idealism’, *British Journal of Philosophy* 17 (2009): 653–83.

⁵² This observation does not imply that an evolutionary framework must be abandoned, but it does suggest either some kind of ‘guiding’ of the evolutionary process or else some kind of framework in which the predictability of that framework is seen as part of God’s initial design of the whole cosmos. The latter view is advocated in terms of evolutionary convergence in Knight, *Science and the Christian Faith*.

⁵³ The sociologist Peter Berger, in his *A Rumour of Angels: Modern Society and the Rediscovery of the Supernatural* (Harmondsworth: Penguin, 1969) famously used mathematics as one of the ‘signals of transcendence’ that led him to take theological thinking seriously. In a comparable way, the mathematician, Roger Penrose, while avoiding any specific theological speculation, has seen mathematics as pointing to some kind of Platonic realm of reality.

reason for examining the human mind more closely in relation to questions about idealism is, however, possibly the most important, at least in the context of the science-theology dialogue. It is that scientific perspectives suggest that, even if no acceptable form of idealism has yet been developed, something akin to Ward's understanding may still be required.

The point here is that the role of the observer in 'creating' physical reality is a major issue in the interpretation of quantum mechanics. While astonishingly fruitful in making predictions at the sub-atomic level, this branch of physics has proved extremely difficult to interpret philosophically. It seems to suggest that the world, until observed, consists not of matter in a particular physical state but rather of multiple potentialities described by a wave function. Only one of these potentialities is actuated through the action of an observer, who is said (in the dominant 'Copenhagen interpretation') to 'collapse the wave function.'⁵⁴ This understanding leads, however, to counter-intuitive situations, of the kind indicated in the famous paradox of Schrödinger's cat, which arises from thinking about the situation of a cat, which has been put into a box that has been set up in such a way that there is a fifty per cent probability that the cat will die before the box is opened and the situation observed. Quantum mechanics suggests, counter-intuitively, that the cat is in fact in two states just before the box's opening: one in which it is dead and one in which it is alive. Only when the observation is made is one of these two potentialities brought into being.⁵⁵

In the judgment of some, this philosophical problem of the role of the observer in quantum mechanics has only been dealt with in a coherent way through the notion of 'the implicate order' that David Bohm has offered,⁵⁶ which – like the related Jung-Pauli principle, which combines insights from both C. G. Jung's psychology and Wolfgang Pauli's understanding of quantum physics⁵⁷ – may in certain respects may be

⁵⁴ This phrase is associated with the dominant 'Copenhagen interpretation' of quantum mechanics, though as we shall note this is not the only interpretation available.

⁵⁵ For an accessible description of this paradox and a more general introduction to quantum mechanics, see John C. Polkinghorne, *The Quantum World* (Princeton, Princeton University Press, 1985).

⁵⁶ David Bohm, *Wholeness and the Implicate Order* (London, Routledge & Kegan Paul, 1980).

⁵⁷ See Harald Atmanspacher, 'The Pauli-Jung Conjecture and its Relatives: A Formally Augmented Outline', *Open Philosophy*, <https://www.degruyter.com/document/doi/10.1515/op-phil-2020-0138/html>.

seen as a manifestation of the ‘dual aspect idealism’⁵⁸ for which Ward pleads. The widespread rejection of such understandings by physicists is not due to their being incompatible with quantum mechanics, on which Bohm and Pauli were acknowledged experts. They have been rejected largely, it would seem, because of their metaphysical overtones. Paradox (or an unfalsifiable ‘many worlds’ interpretation) is generally preferred to the notion that mind and matter should be reinterpreted in a way that is not essentially materialist.

The role of the nous.

It is significant, in my judgment, that in relation to this theological analysis of the way in which aspects of modern physics affect reflection on both apophaticism and idealism, the role of the *nous* – as understood in the philosophy of the ancient world – may be of considerable importance. It not only reinforces perspectives that arise from modern physics, in the way that I have outlined, but it also provides an important perspective that moves us towards the kind of theological anthropology that is to be found in both biblical and classical Christian literature, in which body and mind are seen as components of a unified being, and away from the tendency within Christian thinking that has its roots in either an ancient Greek or modern Cartesian kind of dualism, in which body and mind are seen as distinct entities in some kind of loose association.

There has, admittedly, been a revival of the more traditional Christian understanding in recent years, which has come about not only because theologians have reacted against the dualism common in certain periods in the past, but also – and perhaps primarily, especially within the science-theology dialogue – because analyses of brain damage and of brain scanning data have led cognitive scientists more and more to emphasise and elucidate the physical basis of human mental functioning.⁵⁹ However, this emphasis has led to a situation in

⁵⁸ Ward prefers this term to that advocated by philosophers like John Searle – ‘dual aspect monism’ – for reasons discussed in Knight, *Science and the Christian Faith*, 109.

⁵⁹ See e.g. Warren S. Brown, Nancey Murphy and H. Newton Malony, *Whatever happened to the Soul?: Scientific and Theological Portraits of Human Nature*, (Minneapolis, Fortress Press, 1998); c.f. Nancey Murphy, *Bodies and Souls or Spirited Bodies?* (Cambridge: Cambridge University Press, 2006).

which the notion of mental functioning typically used by participants in the science-theology dialogue is one that focuses on the processes seen in modern scientific discussion as constitutive of that functioning, i.e. those associated with sense perception, memory, reasoning, and emotion. While there has in recent decades also been recognition by scientists of unconscious processes, it is only the reality of what is called the 'cognitive unconscious'⁶⁰ that is usually recognised, so that there has been little or no consideration of other unconscious processes, whether of the kind hypothesised in therapeutic practice of the Freudian or Jungian kind,⁶¹ or of the kind which, in early Christian theology, was often expressed in terms of the intuitive functioning of the faculty labelled in ancient Greek philosophy as the *nous*.

I have argued elsewhere⁶² that acceptance of the reality of this faculty will, in two related ways, significantly affect the way in which the notion of *mind* is used within the dialogue. The first of these relates to the issue of emergence of the mental from the physical; the second relates to our understanding of the human condition in the 'world to come'. There is no room here, however, to repeat these arguments. Rather, I should like to draw my thoughts to a conclusion by noting an aspect of the way in which, if we follow the patristic understanding, and especially its articulation by Gregory of Nyssa, the whole of the spiritual life may be seen in terms of a journey towards the full functioning of the *nous*.

At one level, Gregory's framework manifests very clear parallels with that to be found in the neo-Platonic thinking of Plotinus about the role of the *nous* in spiritual development. As Martin Laird has observed, both Gregory and Plotinus employ the Platonic motif of the mind's ascent to the Incomprehensible, placing a distinct faculty of union at the apex of this ascent. This summit is seen as being reached only through a process in which the discursive reasoning ability eventually gives way to the direct contemplation that is the function of the *nous*. (As Plotinus

⁶⁰ This term first came into widespread use through the influence of an article by John F. Kihlstrom: 'The Cognitive Unconscious', *Science* 237 (1987):1445-52.

⁶¹ As one commentator has noted, notions of the unconscious that have arisen through the practice of psychoanalysis or of analytical psychology have usually been rejected in academic or scientific circles as 'largely unfalsifiable' (James S. Uleman, 'Introduction', Ran R. Hassin, James S. Uleman and John A. Barr, eds. *The New Unconscious* (Oxford: Oxford University Press, 2005), 5. See the comments on this in Christopher C. Knight, 'The Psychology of Religion and the Concept of Revelation', *Theology and Science* 14 (2016) 482-494.

⁶² Knight, *Science and the Christian Faith*, 132-138.

puts it, 'we put aside all learning', or as Gregory puts it, 'every form of comprehension' is abandoned.)⁶³ However, a major difference between Plotinus and Gregory is that this ascent is seen by Gregory, not only in terms of Plotinus's neo-Platonic understanding of the *nous*, but also in terms of the central Christian concept of *faith*. Gregory uses the term faith (*pistis*), not as it had been used in much early Greek philosophy, in which it had denoted the lowest form of knowledge. Instead, as Laird puts it, he ascribes to faith 'qualities which Neoplatonism would reserve for the crest of the wave of *nous*.'⁶⁴ He goes beyond neo-Platonic understanding to stress *relationship* with God, focusing on biblical texts and emphasising the 'sacramental origin and development of faith as well as the transforming character of divine union'.⁶⁵ There was, in his understanding, both a focus on explicitly Christian concepts and a very clear link between the experience of religious faith and those aspects of the ordinary functioning of the mind that were seen by his non-Christian contemporaries as having their origin in the capacities of the *nous*.

We may, of course, judge that we now need a different way of expressing these capacities. Nevertheless, Gregory's use of the notion of the *nous* suggests that some comparable concept may be able to provide for Christians a basis for combatting reductionism in relation to the link between mental functioning and religious faith. Even if only for this reason, therefore, the concept seems worthy of consideration, and the aspects of physics to which I have drawn attention may well, in my judgment, prove helpful in the reappropriation of this concept, whether in its traditional form or in some revised articulation.

If this judgment is correct, then its way of linking physics and human psychology illustrates the way in which the current tendency to divide the science-theology dialogue into various sub-dialogues that relate to different scientific disciplines may well prove counter-productive, especially in the Orthodox context. What is needed in that context is, arguably, more than the aggregate of the conclusions of a number of dialogues between theology and particular scientific disciplines. As I

⁶³ Martin Laird, *Gregory of Nyssa and the Grasp of Faith: Union, Knowledge and Divine Presence* (Oxford: Oxford University Press, 2004), 127.

⁶⁴ *Ibid.*, 2.

⁶⁵ *Ibid.*, 128.

have put it elsewhere, the nature of Orthodox theology requires not simply the usual kind of interdisciplinarity in relation to other disciplines but an approach that reflects the kind of *transdisciplinary* that Basarab Nicolescu has advocated.⁶⁶ While Nicolescu's own proposals may prove to be overly complex, they nevertheless accurately reflect the way in which, as I have put it elsewhere, 'Orthodox scholars often implicitly assume the kind of 'unity of knowledge' that pushes the enquirer beyond the usual bounds of interdisciplinarity.'⁶⁷ This observation is, moreover, reinforced by the apophaticism emphasised in the first part of this essay, in which, as Lossky has put it, theological formulation must be 'in the last resort always a means: a unity of knowledge subserving an end which transcends all knowledge.'⁶⁸ Unless this aspect of Orthodox theology is acknowledged, any dialogue between that theology and science is unlikely to be other than abortive.

⁶⁶ Basarab Nicolescu, *Manifesto of Transdisciplinarity* (New York: State University Press of New York, 2002), The general meaning of the term transdisciplinarity is not, however, not tied to Nicolescu's particular approach. The term seems to have been first used by Jean Piaget in 1970 to advocate an approach to psychology that is not limited to recognising the interactions or reciprocities between specialised fields of research. Rather, it locates these links inside a total system without stable boundaries between those fields. This understanding has now been expanded to incorporate the interaction of any two or more disciplines, and implicit in this approach is a more flexible attitude towards the accepted boundaries and methodology of each discipline than is usual in interdisciplinary work.

⁶⁷ Knight, *Eastern Orthodoxy and the Science-Theology Dialogue*, 3.

⁶⁸ Lossky, *The Mystical Theology of the Eastern Church*, 9.