# A Proposal for an Inclusive Scientific Theory

## *Propuesta de una teoría científica inclusiva*

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**Abstract:** There are three main ways in which Christian theology enriches a broader scientific narrative. First, it provides us with a reassurance of the coherence of reality; second, it offers answers to the scientifically unanswerable ultimate questions; and third, it is able to enrich a scientific narrative by preventing it from collapsing into a technocratic catalogue of common things. In this regard, the paper explores some aspects of the relevance of theology for the understanding of the world, as a means of opening up a discussion of how could be developed an inclusive scientific theory.

**Keywords:** Science, Faith, Reason.

**Resumen:** La teología tiene tres formas de enriquecer un discurso científico más amplio. En primer lugar, asegura la coherencia de la realidad; en segundo lugar, ofrece respuestas a las cuestiones últimas que la ciencia no puede responder; y, en tercer lugar, enriquece el discurso científico impidiendo que se convierta en una tecnocracia, un catálogo de cosas sin importancia. A este propósito, en este artículo se exploran algunos aspectos sobre la importancia de la teología para la comprensión del mundo, como un primer paso para abrir un debate sobre cómo se ha de desarrollar una teoría científica inclusiva.

**Palabras clave:** Ciencia, Fe, Razón.

This paper will consider some aspects of the relevance of theology for our understanding of ourselves and our world, and how we might engage, represent, and inhabit this world. I want to explore what we might call an «inclusive scientific theory», using the term «science» in its classic – as opposed to Anglophone – sense of an intellectual discipline, distinguished by its own distinct vocabulary, conceptuality, and methodology. A science is a disciplined way of thinking, which thus includes – but is not limited to – the natural sciences.

The fundamental question I wish to consider is whether we need to think in terms of our knowledge as a disconnected series of domains, each of which might be known individually, yet which cannot be woven together or integrated to disclose a «big picture», an integrated theory of reality. Can we, as many believe and hope to be true, discover a grander vision of our universe, which holds together a coherent view of our world, and which allows each science to contribute to unfolding and enriching this vision? Can we weave the threads of multiple sciences together, and create a tapestry of meaning? Many Spanish-speaking writers have explored this question, and I take pleasure in noting and honouring their approaches [1].

There is something about human nature that makes us want to try and find such an integral picture of the universe. I could easily point to a rich variety of recent empirical psychological studies which make this point [2]. I hesitate to attempt a distillation of the large body of research literature on this topic, but it seems that we cope better with our complex and messy world if we feel that we can discern meaning and value within our own lives, and in the greater order of things around us. However, I would like to honour the Spanish intellectual tradition by citing from one of its most interesting twentieth-century representatives – the philosopher José Ortega y Gasset (1883-1955). Listen to what he has to say on this point. After considering the limits placed on the role of the natural sciences, Ortega makes this remark [3]:

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[1] See especially ILLANES, J. L., «Teología y ciencias en una visión cristiana de la universidad», *Scripta Theologica* 14 (1982) 873-888; FLORIO, L., «Las ciencias naturales en la elaboración de la teología. Algunas propuestas actuales», *Revista Teología* 44 (2007) 551-578, n. 94.

[2] For example, MACKENZIE, M. J. and BAUMEISTER, R. F., «Meaning in Life: Nature, Needs, and Myth», in *Meaning in Positive and Existential Psychology*, edited by BATTHYANY, A. and RUSSO-NETZE, P., New York: Springer, 2014, 25-38.

[3] ORTEGA Y GASSET, J., «El origen deportivo del estado», *Citius, Altius, Fortius* 9 (1967) 259-276, n. 1-4; quotes at 259.

> De aquí que sea al hombre materialmente imposible, por una forzosidad psicológica, renunciar a poseer una noción completa del mundo, una idea integral del Universo.

In making this assertion, Ortega is highlighting the human interest in exploring two fundamental questions, which are often pursued in isolation of one another: the question of *how the universe functions*, and the question of *what the universe means*.

> La verdad científica se caracteriza por su exactitud y el rigor de sus previsiones. Pero estas admirables calidades son conquistadas por la ciencia experimental a cambio de mantenerse en un plano de problemas secundarios, dejando intactas las últimas, las decisivas cuestiones.

Ortega argues that we need a «big picture», an «integral idea of the universe» which possesses existential depth, and not merely cognitive functionality. The natural sciences, he argues, have a wonderful capacity to explain how human beings function, while nevertheless failing to satisfy deeper human longings and aspirations. We find a similar view in the writings of Sir Peter Medawar, a British biologist and Nobel Laureate who championed the public engagement of science[4]:

> Only humans find their way by a light that illuminates more than the patch of ground they stand on.

Human beings seem to possess some desire to reach beyond the mechanics of engagement with our world, looking for deeper patterns of significance and meaning.

Perhaps I could tell you something of my own story to illuminate this point. My own rediscovery of the enriched understanding and appreciation of the world made possible through Christian theology took place at Oxford University. It was a somewhat cerebral and intellectual conversion, focussing on my growing realization that belief in God made a lot more sense of things than my atheism. I had no emotional need for any idea of God, being perfectly prepared to embrace nihilism – if this was right. Yet I mistakenly assumed that the existential bleakness of atheism was an indication of its truth. What if truth were to turn out to be attractive?

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[4] Medawar, P. B. and Medawar, J., *The Life Science: Current Ideas of Biology*, London: Wildwood House, 1977, 171.

Having already discovered the beauty and wonder of nature, I realized that I had – as the poet T. S. Eliot put it – «had the experience but missed the meaning». I gradually came to the view so winsomely expressed by C. S. Lewis [5]:

> I believe in Christianity as I believe that the Sun has risen, not only because I see it, but because by it, I see everything else.

It was as if an intellectual sun had risen and illuminated the scientific landscape before my eyes, allowing me to see details and interconnections that I would otherwise have missed altogether. I had once been drawn to atheism on account of the minimalism of its intellectual demands; I now found myself discovering the richness of the intellectual outcomes of Christianity.

I did not think of myself as being «religious» in any way, and my new faith did not result in any habits of «religiosity». As far as I was concerned, I had simply discovered a new *theoria* – a way of seeing things which originated in wonder, and ended in a deeper understanding and appreciation of reality. To use Salman Rushdie's terms, I discovered that «the idea of God» is both «a repository for our awestruck wonderment at life and an answer to the great questions of existence» [6].

It will be clear that my conversion – if that is the right word – was largely intellectual. I had discovered a new way of seeing reality, and was delighted by what I found. Like Dorothy L. Sayers (1893-1957), I was convinced that Christianity seemed to offer an account of reality that was «intellectually satisfactory» [7]. Yet, also like Sayers, I found my initial delight in the internal logic of the Christian faith to be so compelling that I occasionally wondered if I had merely «fallen in love with an intellectual pattern» [8]. Yet the distinctive Trinitarian logic of the Christian faith both encourages and opens up an engagement with other sciences, the pursuit of which has taken up much of my time over the last forty years. In this paper, I would like to offer some modest

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[5] LEWIS, C. S., *Essay Collection*, London: HarperCollins, 2002, 21. For further reflection, see MCGRATH, A. E., «The Privileging of Vision: Lewis's Metaphors of Light, Sun, and Sight», in *The Intellectual World of C. S. Lewis*, Oxford: Wiley-Blackwell, 2013, 83-104.

[6] RUSHDIE, S., *Is Nothing Sacred? The Herbert Read Memorial Lecture 1990*, Cambridge: Granta, 1990, 8.

[7] Letter to DUFF, L. T., 10 May 1943, *The Letters of Dorothy L. Sayers: Volume II, 1937 to 1943*, edited by REYNOLDS, B., New York: St Martin's Press, 1996, 401.

[8] Letter to TEMPLE, W., Archbishop of Canterbury, 7 September 1943, *The Letters of Dorothy L. Sayers: Volume II, 1937 to 1943*, 429.

reflections on the possibilities of intellectual dialogue and coordination that the Christian vision of reality enables.

In the last twenty years, a growing consensus has emerged that concepts of human rationality are domain-specific, in that that each intellectual discipline develops a set of intellectual virtues, procedures and criteria which are deemed to be appropriate to its distinct tasks and procedures [9]. So how do these rationalities relate to each other? Is there some «meta-rationality» which they each reflect or embody, in their own distinct manners? Or are they to be seen as essentially independent, perhaps bearing some family resemblance allowing the door to be kept open for at least the *possibility* of shared norms or methods across disciplines? And what form might such a meta-rationality take? Are we speaking of a standpoint of logical necessity, based, like Euclid's geometry, on axiomatic deduction? Or of a plausible cohesiveness, holding together a domain of particulars after the manner of James Joyce's *Ulysses*? Or an imagined – though not for that reason imaginary – grand picture of reality, which provides a means of visualizing interconnectedness, without offering an algorithmic calibration of those links?

For me, Christian theology offers us a way of imagining our world, which is grounded in the New Testament. It allows us to imagine – that is, to *see* – the world afresh, rejecting limiting categorizations and over-intellectualized accounts of reality which ultimately impoverish our understanding of the world and ourselves. If we think of a social imaginary as a «world-forming and meaning-bestowing creative force» [10], we can conceive of the Church as a «social imaginary», a community which is, in the first place shaped by this imaginative vision, and in the second, which offers this imaginative lens to the world, in order that it may see itself as it really is.

Augustine sees the Christian community as playing a critical role in this process by reinforcing this way of seeing things by its proclamation and sacramental ministries, which both narrate and enact this vision of reality, correlating it with human experience. *Tota igitur opera nostra*, *fratres*, *in hac vita est*, *sanare oculum cordis*, *unde videatur Deus* [11]. Augustine's telling phrase «hea-

[9] See, for example, Nickerson, R. S., *Aspects of Rationality: Reflections on What It Means to Be Rational and Whether We Are*, New York: Psychology Press, 2008.

[10] Gaonkar, D., «Toward New Imaginaries: An Introduction», *Public Culture* 14 (2002) 1-19, n. 1; quote at 6.

[11] Augustine of Hippo, *Sermo* LXXXVIII.v.5.

ling the eyes of the heart» (cfr. Ephesians 1:18) suggests that the acquisition of such new habits of thought can be compared to a blind person being enabled to see the world for the first time. The Christian way of «seeing» reality is neither naturally acquired nor naturally endorsed. It comes about through the Christian revelation, which brings about a transformation of our perception of things. And that revelation is mediated through the proclamation of the Christian church – including its preaching and sacraments.

This «imaginary» is not to be reduced to a Kantian conceptual net, but rather to an active empowering capacity to see things in a fresh and compelling manner. If we had more time, I might pause here to engage with Cornelius Castoriadis's argument that the «imaginary» is constitutive of meaning, in that it provides an *eidos*, a means of seeing and structuring reality, which allows us to conceive of – or re-imagine – the real in the first place [12]. Or with Charles Taylor's generative account of social imaginaries, and the role that the imagination plays in a community's construction of reality [13].

In this paper, I shall briefly map two approaches to conceptualizing the rational relationship between the natural sciences and Christian theology, as a means of opening up a discussion of how we might begin to develop and unfold an inclusive scientific theory, no matter how provisional and tentative this might be. Both these approaches are essentially heuristic, offering an imaginative framework which helps us to see how their intellectual territories might overlap and interact, without providing a rigorous means of adjudicating territorial boundary disputes or determining levels of porosity.

The idea that there are multiple ways of viewing or approaching a complex reality can be traced back to Plato. Reality is too vast to be fully apprehended by any single individual; we can at best hope to grasp part of that greater whole, and allow others to supplement our limited apprehension. Knowledge is thus a communitarian or corporate undertaking, involving the aggregation and assimilation of multiple perceptions. C. S. Lewis is perhaps one of the best-known representatives of this view, arguing that literature represents an accumulation of insights, open to personal appropriation and synthesis [14].

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[12] For Castoriadis's approach and significance, see WOLF, H. (ed.), *Das imaginäre im Sozialen: Zur Sozialtheorie von Cornelius Castoriadis*, Göttingen: Wallstein, 2012.

[13] TAYLOR, Ch., *Modern Social Imaginaries*, Durham, NC: Duke University Press, 2004.

[14] LEWIS, C. S., *An Experiment in Criticism*, Cambridge: Cambridge University Press, 1961, 140-141.

> My own eyes are not enough for me, I will see through those of others... In reading great literature, I become a thousand men and yet remain myself. Like the night sky in the Greek poem, I see with a myriad eyes, but it is still I who see.

Literature, for Lewis, enables us «to see with other eyes, to imagine with other imaginations, to feel with other hearts, as well as our own» [15]. The weaving together of such multiple perspectives and partial insights is left to the creative imagination of the individual knower. In this way, Lewis suggests, it is possible to «heal the wound, without undermining the privilege, of individuality». The imaginative scope of the individual thinker is enhanced by the perspectives and insights of others; yet that thinker's distinct identity and individuality is affirmed and respected.

Nietzsche developed a related approach in his *Will to Power*, arguing that the human eye cannot take in the rich landscape with which it is confronted, and tends to focus on features in the immediate foreground of the field of vision. This complexity of the visual field leads to the perception that there is no single meaning *(Sinn)* to be discerned as lying behind the world; rather, there are countless meanings [16]. Although the implications of Nietzsche's perspectivism are the subject of considerable debate, it seems that the decision to accept one such meaning as normative is best seen as an act of intellectual self-determination rather than of discernment. Truth not something that is «there», waiting to be «found or discovered», but is rather «something that must be created», and that thus refer to a *process*, or a «will to overcome that has in itself no end». Nietzsche himself does not develop an intellectual project designed to integrate multiple perspectives, being more concerned with exploring the implications of the human tendency to identify what is seen to be relevant for pragmatic reasons.

Defenders of certain forms of scientific perspectivalism argue that the approach is able to describe not merely different regions of the same complex system but the same system at different levels [17]. Perspectives are to be seen as a visual metaphor, an imaginatively rich yet cognitively inexact manner of des-

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[15] Lewis, C. S., *An Experiment in Criticism*, 137.

[16] Emden, Ch. J., *Nietzsche's Naturalism: Philosophy and the Life Sciences in the Nineteenth Century*, Cambridge: Cambridge University Press, 2014.

[17] See the important analysis in Rueger, A., «Perspectival Models and Theory Unification», *British Journal for the Philosophy of Science* 56 (2005) 579-594, especially 590-592.

cribing the many features of a complex system, without necessarily resolving the complexities of their relationships. The appeal to multiple perspectives is a strategy for saving the phenomena, providing a conceptual net that captures complexity and detail, yet without resolving the relationship of the various elements of the picture. No perspective offers a «perfect model» of reality; rather, each perspective offers an account of reality which is not that of exact *isomorphism*, but rather that of *similarity*, and then always in limited respects and degrees. The challenge is that of the coordination – perhaps even unification – of such perspectives without losing their local explanatory power.

Yet the visual metaphor of «perspective» offers more than the recognition of multiple ways of viewing and representing a complex reality; it also catalyses discussion about different levels of reality, by offering a means of visualizing the depth of a complex entity. The origins of linear perspective at the time of the Renaissance arose from an artistic desire to be able to convey depth in drawings, thus enabling two-dimensional representation of a three-dimensional reality [18]. Yet there are concerns that need to be raised about such an approach, including the anxiety that the use of perspective introduces a homogeneity or orderedness which is alien to the direct experience of reality itself, thus imposing a predetermined structure on what is being observed [19].

The natural sciences make extensive use of the notion of «levels of explanation», an approach which counters inappropriate reductionist tendencies by emphasising that some explanations might be offered of certain aspects of systems which could not be applied to every aspect of a system, or the system as a whole [20]. Reality is stratified, and each scientific discipline develops research methods adapted to its specific objects of study. The form of «critical realism» developed by the British philosopher and social scientist Roy Bhaskar provides a conceptual tool that affirms the ontological unity of reality, while recognizing that this unity expresses itself at different levels, each demanding a form of engagement which is determined by the distinctive identity of the area of reality under investigation [21]. Bhaskar's account of critical

[18] For the suggestion that there are theological roots to this approach, see EDGERTON, S. Y., *The Mirror, the Window and the Telescope: How Renaissance Linear Perspective Changed Our Vision of the Universe*, Ithaca, NY: Cornell University Press, 2009, 36.

[19] See especially PANOFSKY, E., «Die Perspektive als "Symbolische Form"», in *Aufsätze zu Grundfragen der Kunstwissenschaft*, Berlin: Volker Spiess, 1980, 99-167.

[20] POTOCHNIK, A., «Levels of Explanation Reconceived», *Philosophy of Science* 77 (2010) 59-72, n. 1.

[21] For a useful overview, see COLLIER, A., *Critical Realism: An Introduction to Roy Bhaskar's Philosophy*, London: Verso, 1994.

realism – which he earlier described as «Transcendental Realism» or «Critical Naturalism» – allows the active exploration of *social* realities, thus opening up a rich conceptual toolbox for engaging the multiple levels of religious belief, practice, and communities.

This form of critical realism insists that the world must be regarded as differentiated and stratified. Each individual science deals with a different stratum of this reality, which in turn obliges it to develop and use methods of investigation adapted and appropriate to this stratum. Stratum *B* might be grounded in, and emerge from, Stratum *A*. Yet despite this relation of origin, the same methods of investigation cannot be used in dealing with these two different strata. These methods must be established *a posteriori*, through an engagement with each of these strata of reality. Each level is to be regarded as distinct, thus demanding its own method of investigation and representation which is adapted to its structures and forms, rather than having some methodology developed for another purpose and application to be imposed upon it.

Bhaskar thus offers an account of the relation of the natural and social sciences which affirms their methodological commonalities, while respecting their distinctions, particularly when these arise on account of their objects of investigation [22].

> Naturalism holds that it is possible to give an account of science under which the proper and more or less specific methods of both the natural and social sciences can fall. But it does not deny that there are significant differences in these methods, grounded in real differences in their subject-matters and in the relationships in which these sciences stand to them... It is the nature of the object that determines the form of its possible science.

We see here a clear recognition of each science being characterized by the nature of its object, and being obligated to respond to that object in a manner which is appropriate to its distinctive nature: ontology determines epistemology. If we have «a conception of the world as stratified and differentiated», the nature of any specific object determines both the manner in which it can be known, and the extent to which it can be known. There is thus no *mathesis universalis*, no single and universal methodology for investigating

[22] Bhaskar, R., *The Possibility of Naturalism: A Philosophical Critique of the Contemporary Human Sciences*, 3rd ed., London: Routledge, 1998, 3.

everything, such as that proposed during the Enlightenment, and echoed by later writers such as the German philosopher Heinrich Scholz[23].

There is an obvious theological counterpart here. The Scottish theologian Thomas F. Torrance (1913-2007) argued that all intellectual disciplines or sciences are under an intrinsic obligation to give an account of reality «according to its distinct nature»[24]. For Torrance, this means that both scientists and theologians are under an obligation to «think only in accordance with the nature of the given». The object which is to be investigated must be allowed a voice in this process of inquiry. The distinctive characteristic of a «science» is to give an accurate and objective account of things in a manner that is appropriate to the reality being investigated. Both theology and the natural sciences are thus to be seen as *a posteriori* activities which respond to «the given» rather than as *a priori* speculation based on philosophical first principles. In the case of the natural sciences, this «given» is the world of nature; in the case of theological science, it is God's self-revelation in Christ.

It is important to appreciate that the recognition of stratification does not imply, still less entail, that the properties of higher strata are determined by, or can be predicted on the basis of, the lower strata. It is a commonplace in popular scientific writings to offer arbitrary reductionist accounts of complex phenomena, such as Francis Crick's simplistic overstatement[25]:

> You, your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behavior of a vast assembly of nerve cells and their associated molecules.

This represents a reductive explanation of human behaviour which arbitrarily terminates at the molecular level, apparently on the basis of the unstated assumption that the properties and status of lower (though in this case not the lowest) levels determine those of the higher. Biological processes are assumed to always be derivable from lower level data and mechanisms. Yet this fails to take account of top-down causative processes, and the more general point that there now appears to be no «privileged» level of causation in the first place.

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[23] McGrath, A. E., «Theologie als Mathesis Universalis? Heinrich Scholz, Karl Barth, und der wissenschaftliche Status der christlichen Theologie», *Theologische Zeitschrift* 62 (2007) 44-57.

[24] Torrance, Th. F., *Theological Science*, London: Oxford University Press, 1969, 10.

[25] Crick, F. H. C., *The Astonishing Hypothesis: The Scientific Search for the Soul*, London: Simon & Schuster, 1994, 3.

One important outcome of this approach is that it offers a luminous assessment of what is often known as «scientism» – the «totalizing attitude that regards science as the ultimate standard and arbiter of all interesting questions»[26]. Bhaskar's critical realism allows scientism to be seen as an unjustified imposition of a single research method appropriate for, and developed in relation to, one specific level of reality onto every aspect of the natural and social world[27]. For Bhaskar, the nature of the object determines the form of its possible science; scientism, however, insists that everything must be investigated using the methods of the natural sciences – even when these are not adapted or appropriate for the investigation of certain critical questions, such as issues of meaning or purpose. Scientism denies that there are «any significant differences in the methods appropriate to studying social and natural objects»[28].

Scientism thus reduces reality to what can be known through the application of one specific research method. Epistemology is allowed to determine ontology, in that the use of one specific research method determines what is «seen» – and hence judged to be real. Scientism is, on this approach, blind to the existence of levels of reality that cannot be engaged by the methods of the natural sciences – methods, it must be added, which were developed for other purposes. The observation that a specific research method does not disclose any given level is misinterpreted as implying that this level does not exist.

This stratified approach to science and religion has the enormous advantage of doing justice to their complexity and stratification. It recognises that the natural sciences exist in relationships of interaction and dependency, and that religion is a multi-layered phenomenon which cannot be reduced to any of its communal, symbolic, narrative or ideational elements. It is also capable of accommodating the shifting historical and cultural understandings of what each of the terms «science» and «religion» designates[29]. One of the more fundamental concerns about Ian Barbour's four-fold taxonomy of relationships between science and religion – conflict, dialogue, independence, and integration – is that it is of severely limited utility in allowing engagement with historical debates, in that these are socially and culturally embedded, of-

[26] Pigliucci, M., «New Atheism and the Scientistic Turn in the Atheism Movement», *Midwest Studies in Philosophy* 37 (2013) 142-153, n. 1.
[27] Bhaskar, R., *The Possibility of Naturalism*, 2-3.
[28] Bhaskar, R., *The Possibility of Naturalism*, 2.
[29] Harrison, P., *The Territories of Science and Religion*, Chicago: University of Chicago Press, 2015.

ten involving the dynamics of institutions (such as the church), cultural associations and historical memories rather than the mere relation of ideas[30]. A stratified approach to both science and religion does not displace, but rather complements, perspectival approaches.

Yet in the end, we are left struggling to discern how such multiple perspectives and levels are to be woven together, in that such a process involves judgement about what weight is to be attached to each voice, and how seeming inconsistencies are to be addressed. Any «transversal» approach to rationality[31], which, recognizing the Enlightenment's failure to provide an adequate defence of its own *Letztebegründung*[32], seeks to be attentive to many voices and social practices, must make transparent and warranted decisions about how these voices and practices are to be assessed and integrated. In the end, the notion of transversality is fundamentally a heuristic device that creates imaginative space for affirming such multiple approaches, rather than a conceptual algorithm for calibrating their competing claims to authority, or the outcomes of their application. Christian theology is one voice in this conversation. Yet this is not to suggest that it is drowned out by other voices.

Yet however imprecise we might find the notions of multiple perspectives and levels, both these approaches nevertheless offer an imaginative framework which allows us to see how multiple approaches might be held together and correlated, and seen as part of a greater enterprise of securing traction on a complex reality. Human rationality takes the form of a spectrum of practices, developed and adapted to a variety of situations and tasks encountered in the process of production of knowledge. Let me set out, however briefly, some ideas about the ways in which Christian theology offers us some intellectual and imaginative resources to engage in creative and constructive dialogue with other sciences.

In my view, there are three main ways in which Christianity enriches a broader scientific narrative. First, it provides us with a reassurance of the *co-*

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[30] CANTOR, G. and KENNY, Ch., «Barbour's Fourfold Way: Problems with His Taxonomy of Science-Religion Relationships», *Zygon* 36 (2001) 765-781.

[31] The best account is WELSCH, W., *Vernunft: Die zeitgenössische Vernunftkritik und das Konzept der transversalen Vernunft*, 4th ed., Frankfurt am Main: Suhrkamp, 2007, which merits close study despite its dense style.

[32] See, for example, d'Alembert's appeal to metaphysics as such an ultimate ground of knowledge: NEUSER, W., *Natur und Begriff: Zur Theoriekonstitution und Begriffsgeschichte von Newton bis Hegel*, 2nd ed., Wiesbaden: Springer, 2017, 99-123.

*herence of reality*. No matter how fragmented our world of experience may seem, there is a half-glimpsed «bigger picture» which holds things together, its threads connecting together in a web of meaning what might otherwise seem incoherent and pointless. This theme resonates throughout the poetic and religious writings of the Middle Ages. As might be expected, it is a major issue in perhaps that greatest of medieval literary classics – Dante's *Divine Comedy*. As the poem draws to its close, Dante catches a glimpse of the unity of the cosmos, in which its multiple aspects and levels are seen to converge into a single whole [33].

Yet the modern period has seen doubts about the coherence of reality, many arising from the «new philosophy» of the Scientific Revolution. Do new scientific ideas destroy any idea of a meaningful reality? The English poet John Donne (1572-1631) spoke movingly of this concern in the early seventeenth century, as scientific discoveries seemed to some to erode any sense of connectedness and continuity within the world. «Tis all in pieces, all coherence gone», he wrote of this unsettling new world [34]. Where once there was a sense of intellectual and moral coherence to reality, there now seems to be what the great German poet and novelist Hermann Hesse (1877-1962) described during the brief heyday of the Weimar Republic as a mere aggregation of «intellectual fashions» and the «transitory values of the day» [35].

Other intellectual developments have also posed a threat to the notion of a coherent reality, including the philosopher Nancy Cartwright's idea of a «dappled world» [36]. Where C. S. Lewis argued that «we are not reading rationality into an irrational universe, but responding to a rationality with which the universe has always been saturated» [37]. Cartwright holds that we are imposing an order or rationality when there may be none – or, indeed, there may be a variety of orderings, requiring multiple accounts of the natural world and its structures.

Given this reasonable concern about incoherence, it is important to note that Christian theology provides a web of meaning, an imaginative framework

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[33] DANTE, *Paradiso* XXXIII, 85-90.
[34] DONNE, J., *The First Anniversarie: An Anatomy of the World*, line 213, in MILGATE, W. (ed.), *The Epithalamions, Anniversaries, and Epicedes*, Oxford: Clarendon Press, 1978, 28.
[35] HESSE, H., «Die Sehnsucht unser Zeit nach einer Weltanschauung», *Uhu* 2 (1926) 3-14.
[36] CARTWRIGHT, N., *The Dappled World: A Study of the Boundaries of Science*, Cambridge: Cambridge University Press, 1999.
[37] LEWIS, C. S., *Christian Reflections*, Grand Rapids: Eerdmans, 1967, 65.

which sustains and expresses a deep belief in the fundamental interconnectedness of things, which holds Donne's «pieces» together. Christian theologians find this theme eloquently expressed in the New Testament, which speaks of all things «holding together» in Christ (Colossians 1:17)[38]. There is a hidden web of meaning and connectedness behind the ephemeral and incoherent world that we experience. This was the insight which constantly eluded the novelist Virginia Woolf (1882-1941), who occasionally experienced short, stabbing, instances of insight; epiphanic moments which seemed to her to reveal «some real thing behind appearances»[39]. These transitory and rare «moments of being» (as she called them) convinced her that there were hidden webs of meaning and connectedness behind the world she knew. Yet she could never enter this hidden world; it always seemed to retreat from her as she approached its door, as if she were grasping at smoke.

Second, Christian theology offers answers to the scientifically unanswerable – to what Karl Popper termed «ultimate questions», such as the meaning of life, and our place in a greater scheme of things. These are to be seen as supplementations of the rigorous and consistent application of the scientific method, protecting us against the existential vacuum that results from seeing science alone as the foundation of meaning and value. Christian theology thus provides a framework of meaning, both imaginative and cognitive, which both helps us to grasp the contours of reality more firmly, but inspires us to want to pursue the good and the beautiful.

The author Salman Rushdie is severely – and rightly – critical of «any ideology that claims to have a complete, totalized explanation of the world»[40]. Both science and religion can easily become ideologies – above all, when they assert that they alone have a monopoly of truth. That's the error of both religious fundamentalism and scientism. But it's an *avoidable* error. I have argued for using multiple maps to do justice to the many levels of physical and social reality, not simply because reality itself is so complex that it *demands* this form of representation, but also to challenge any pretensions of ultimacy on the part of any one science. That's why I think we need to listen to the American

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[38] For an exploration of this theme, see TANZELLA-NITTI, G., «La dimensione cristologica dell'intelligibilità del reale», in *L'intelligibilità del reale: Natura, uomo, macchina*, edited by RONDINARA, S., Rome: Città Nuova, 1999, 213-225.

[39] WOOLF, V., «A Sketch of the Past», in SCHULKIND, J. (ed.), *Moments of Being*, 2nd ed., New York: Harcourt Brace & Company, 1985, 72.

[40] RUSHDIE, S., *Is Nothing Sacred?*, 9.

sociobiologist Edward O. Wilson. Though no friend of religion, Wilson was clear that its insights needed to be incorporated into any systemic account of our world. He argues for the need for *consilience* – the ability to weave together multiple threads of knowledge in a synthesis which is able to disclose a more satisfying and empowering view of reality [41].

> We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely.

And third, Christian theology is able to enrich a scientific narrative by preventing it from collapsing into a technocratic «dull catalogue of common things» (John Keats). The sociologist Max Weber used the term «disenchantment» to refer to an excessively intellectual and rationalising way of looking at nature which limited it to what could be measured and quantified [42]. A religious perspective does not in any way deny the scientific utility of such a rationalizing approach. It simply insists that there is more that needs to be said, if a full and satisfying account of reality is to be provided, and offers a supplementation of a scientific narrative by which this might be achieved.

Christian theology thus offers a conceptual map, which affirms the importance of the empirical world, while emphasising the importance of discerning deeper truths and values which cannot be disclosed through the natural or social sciences. Each individual may thus weave together their personal understanding of how a scientific narrative may be enriched and supplemented by its theological counterpart. As Lewis suggests, this allows us to respect the priviledge of individuality, without becoming trapped by its limitations. Lewis himself recognized the importance of communal reflection, which allows the individual to be challenged and enhanced by the insights of others, both living and dead.

I began this paper by quoting a Spanish philosopher; I shall end by quoting a Spanish-speaking novelist. In one of his short stories, the Argentinian writer Jorge Luis Borges (1889-1986) tells of a moment when a degree of clarity is unexpectedly brought to what otherwise seemed to be a rather unpro-

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[41] WILSON, E. O., *Consilience: The Unity of Knowledge*, New York: Vintage, 1999, 294.

[42] For the process, see SCHLUCHTER, W., *Die Entstehungsgeschichte des modernen Rationalismus*, Frankfurt am Main: Suhrkamp, 1998.

mising conversation. It seemed as if a «more complex interlocutor» had joined the dialogue, and moved it on [43].

> Fue como si hubiera terciado en el diálogo un interlocutor más complejo.

In this paper, I have argued the need for a more complex narrative than that offered by the natural sciences alone – or, indeed, by *any* science on its own. We need multiple windows on our complex world if we are to appreciate it to the full, and act rightly and meaningfully within it. Now there is nothing wrong with seeing only part of the truth, so long as we realize that this is an incomplete vision. The problems begin if someone thinks that reality is limited to what one tradition of investigation can disclose.

Reality is just too rich to be exhaustively, or even representatively, described by one tradition of investigation, one angle of approach, or one level of description. There are so many facets of existence that need to be explored, so many levels of reality to be engaged. We need a dialogue of the sciences – including theology! – which attempts to weave together the great human longing for meaning, and our desire to make sense of our world. This paper may have explored this notion a little tentatively and inconclusively, but I hope my readers will feel that there are some interesting possibilities here for further exploration and discussion.

[43] BORGES, J. L., «El acercamiento a Almotásim», in *Nueva antología personal*, Buenos Aires: Siglo XXI Editores Argentina, 2004, 60-75; quote at 72. For the potential of this approach, see CORTI, E. C., «La palabra como schêma», *Variaciones Borges: Revista del Centro de Estudios y Documentación Jorge Luis Borges* 14 (2002) 89-102.

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