

FEATURE ARTICLE

A MANIFESTO FOR INTELLECTUAL ENGAGEMENT: Reflections on Thomas F. Torrance's *Theological Science* (1969)

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*This lecture was given to the T. F. Torrance Theological Fellowship at the 2016 meeting of the American Academy of Religion. It focuses on my own multiple readings of one of Torrance's best-known works, *Theological Science* (1969), exploring its strategy for encouraging and informing intellectual engagement between theology and other disciplines, most notably the natural sciences. The lecture locates *Theological Science* within the context of Torrance's overall theological project, and considers its distinct approach to theological rationality and its wider implications.*

Good afternoon, ladies and gentlemen. Let me begin by expressing my delight at being able to honour the memory of Tom Torrance in this way. There is no doubt in my mind that Torrance is one of the most interesting and engaging British theologians of the 20th century, and it is quite likely that he'll be one of the relatively few such theologians to find a readership in the next generation. Nobody really understands the mechanisms and factors governing the reception of the theological past. We can certainly try to make sense of why some writers continue to be read today where others have been discarded and forgotten. But we cannot predict whom the future will value and remember. Nevertheless, it seems to me that a core criterion is that a writer must continue to be useful; that is to say, a future generation must find a theological writer to engage meaningful questions in a manner and with a quality that seem to outshine more recent alternatives. That's one of the reasons why I am confident that Torrance will continue to be remembered in coming decades.



Now before I go any further, I need to clarify a few points. First, I am not a specialist in Torrance. I am a theologian with various special interests — such as the relation of Christian theology to the natural sciences — which make Torrance a natural and winsome dialogue partner. And second, although I gladly use Torrance in developing my own theological approach, mine is not the same as his. I found the quality of his engagement with some important questions to be immensely helpful to me as I developed my own position, despite the differences which exist between us. Let me make it clear that my theological *respect* for Torrance does not depend on theological *agreement* with him at every point, but on my recognition of the quality and depth of his theological vision which demands to be engaged and (where possible!) appropriated. I make certain theological moves that Torrance does not. Yet this is not because I have misunderstood him, but because I have chosen to take a different course at points.

So why is Torrance so significant? I suspect each of us here today would answer this question in slightly different ways, reflecting our own concerns and interests. It goes without saying, I think, that my own personal history and research agendas shape my particular response. I would like to give you four reasons for valuing him as a theologian, and I will be focusing on the fourth of these in my lecture this afternoon. The first reason is this: Torrance is an outstanding example of someone who consciously mediates the interpreted wisdom of the past. He is someone who is clearly nourished by the past, having appropriated and interpreted it in his own theological project.

Many of you will enjoy, as I do, reading the works of C. S. Lewis. Professional theologians sometimes get irritated when I suggest that Lewis was one of the most significant theological voices of the 20th century, but I am unrepentant and unapologetic in this matter. One of Lewis's most important reflections concerns how the present configures and incorporates the past, finding itself both nourished and critiqued by the wisdom of earlier generations as "the clean sea breeze of the centuries" blows through our minds.¹ As it happens, Lewis wrote those words when commending Athanasius' *de Incarnatione* as an example of the wisdom of the past which still retains its pertinence and luminosity today. Torrance mediates to us, in his own distinct way, a theological appropriation of the wisdom of Athanasius, John Calvin, and Karl Barth. Where some theologians invite us to break free from the past only to end up imprisoning us in the deficient and anaemic theological framework of modernity, Torrance invites us to be refreshed and reinvigorated by the classics of the past.

1 C. S. Lewis, "On the Reading of Old Books" (1944) in *Essay Collection* (London: HarperCollins, 2002), 440.

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My second reason for valuing Torrance builds on this. I'm a theologian of the Church of England. I don't care for the word "Anglican" any more, as I no longer consider it particularly meaningful, either theologically or ecclesologically. Like Dorothy L. Sayers and C. S. Lewis, I prefer to articulate and affirm a consensual Christian orthodoxy rather than any of its specific denominational implementations, including my own. Now while I don't theologize very much *about* my own ecclesial tradition, I most certainly theologize from *within* it. I find that the rich theological tradition of the Church of England gives me a context and a framework which enable me to do theology in a creative yet accountable way. I can draw on writers such as John Donne, George Herbert, and Thomas Traherne — just to give a few rather splendid seventeenth-century examples easily supplemented by writers such as Lewis and Sayers in more recent times — who offer me resources, both imaginative and conceptual, for my own attempts to do theology.

Torrance is a leading representative of the Reformed theological tradition. It is not a tradition to which I myself belong; it is, however, a tradition which I treat with the greatest respect. Indeed, at times I feel slightly jealous of its formidable intellectual resources, evident in the realm of literature as in theology. (I am sure that I am not the only one here this afternoon who admires Marilynne Robinson's *Gilead*.) As I read Torrance, I see him both theologizing *out of* this tradition and theologizing *about* it. In other words, Torrance recognizes the Reformed tradition as offering both resources and stimuli for theological reflection, while the same time seeing himself as part of a community of faith that is, so to speak, responsible for safeguarding and advancing its distinct theological tradition (think, for example, of his *School of Faith*). Torrance, as you all know, is no passive recipient of the Reformed faith, but clearly sees himself as an active interpreter of this living theological tradition. In part, I believe that Torrance's theological strengths reflect his active and informed participation in this chronologically extended process of theological reflection within the Reformed tradition, particularly with a clear affirmation of its distinctively Scottish embodiments and representatives.

Now let me reassure you that I have no intention of jumping theological ships! I am very happy in my present ecclesial location, despite its obvious shortcomings and difficulties. But my own base within the Church of England helps me appreciate the distinct strengths of other such locations. I hope that those of you who are confessionally Reformed will allow me to pay you the compliment of acknowledging your obvious strengths to which, I believe, Torrance has contributed significantly.

The third point at which Torrance has made a significant contribution concerns the interpenetration of historical and systematic theology. One of the many

pleasures of being able to address this distinguished gathering is that since you already know so much about Torrance, I do not need to provide you with a survey of his academic and professional career. So I will merely highlight the importance of the fact that Torrance initially went to New College Edinburgh as Professor of Church History from 1950-2 and subsequently transitioned at an opportune moment to the chair of Christian Dogmatics, which he held from 1952 until his retirement in 1979. Torrance's systematic theology involves engagement, criticism, and retrieval of the theological legacy of the past, especially the approaches of Athanasius, Calvin, and Barth. We might think of that famous quote from Barth (which Torrance might modify slightly in terms of the personalities to be engaged, but not in terms of the general principle at stake):

As for theology, we cannot be in the church without taking responsibility as much for the theology of the past as for the theology of our own present day. Augustine, Thomas Aquinas, Luther, Schleiermacher and all the others are not dead but living. They still speak and demand a hearing as living voices, as surely as we know that they and we belong together in the church.²

Reading some of Torrance's later writings — especially his two major late works *The Trinitarian Faith* (1988) and *The Christian Doctrine of God* (1996) — brings home to us the importance of this creative interplay between historic resources and contemporary reflection.

Now there are points at which Torrance's reading of the theological past may need nuancing. For example, I have niggling concerns that *The Christian Doctrine of God* seems, at times, to superimpose concepts upon an older theological vocabulary that are actually grounded in contemporary scientific culture. I think, for instance, that this may well be the case with his discussion of the concept of *perichoresis*. And while I value Torrance's readings of Athanasius, Calvin, and Barth, I have some reservations about his reading of Augustine, particularly his concerns about what he styles as Augustine's "inherent dualism." Like Colin Gunton, Torrance offers what I believe to be a somewhat skewed reading of Augustine, happily corrected, however, by recent scholarship.³ But I can live with this. The history of systematic theology is not exactly short of misreadings of the great and the good. The important thing is to ensure a respectful dialogue between systematic and historical theology, informed by the best scholarship on the one hand, while on the other hand recognizing that historical scholarship

2 Karl Barth, *Die protestantische Theologie im 19. Jahrhundert* (Zürich: Evangelischer Verlag, 1952), 3.

3 For comment, see Bradley G. Green, *Colin Gunton and the Failure of Augustine: The Theology of Colin Gunton in Light of Augustine* (Eugene, OR: Pickwick Publications, 2011).

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can change its mind from time to time on matters of importance to systematic theology.

Yet there is a fourth area in which I believe Torrance has made a significant contribution, what we might call a *scientifically engaged theology*. By this, I mean a theology which is not defensive about its own distinct vision of its task and foundations, but realizes that it can only be enriched by an active, informed, and *critical* engagement with other intellectual traditions, especially the natural sciences. I wish this afternoon to focus on this fourth strength of Torrance's theology as I believe it to be one of his more significant achievements.⁴ Let me illustrate this from my own narrative.

I began my academic career by studying the natural sciences at Oxford University. After an undergraduate degree in chemistry with a specialization in quantum theory, I moved into the field of biological sciences for my doctorate, working in the Oxford laboratories of Professor Sir George Radda. While I was doing my doctoral research, I persuaded the university authorities to allow me to read for a first degree in theology at the same time. So in the summer of 1978, Oxford University awarded me both a doctorate in the field of molecular biophysics and a first-class honours in theology.

Studying theology at Oxford in the years 1976-8 was fascinating. Torrance was being discussed within the Faculty of Theology at Oxford around this time, focusing on his *Space, Time and Incarnation* (1969). However, I did not really pick up on this, having instead developed a particular interest in the systematic theologies of both Karl Barth and Emil Brunner. I had a real concern to develop intellectual links between Christian theology and the natural sciences, and at that stage I considered both Barth and Brunner as offering significant possibilities for interdisciplinary dialogue in this respect. I had taken a specialist paper in the field of science and religion while studying theology at Oxford, and I knew that there was much work that needed doing.

I first began to read Torrance seriously when I moved to Cambridge University in 1978 to undertake theological research and also to prepare for ministry in the Church of England. I had been elected to the Naden Studentship in Divinity at St. John's College, Cambridge, which gave me access to Cambridge's excellent theological research libraries. I had been impressed by the example of two theologians I had studied at Oxford in 1977, Wolfhart Pannenberg and Jürgen Moltmann. Both had begun their theological careers by focusing on moments in the history of the discipline, cutting their theological teeth on classic episodes

⁴ For further comment, see Myk Habets, *Theology in Transposition: A Constructive Appraisal of T. F. Torrance* (Minneapolis: Fortress Press, 2013), 27-66.

from the theological past. I eventually decided I would use my time at Cambridge to research the development of the theology of Martin Luther. Professor Gordon Rupp (1910-86), a Luther expert who had recently retired as Dixie Professor of Ecclesiastical History at Cambridge, agreed to be my supervisor. In the event, I broadened out my research to consider the development of the doctrine of justification (a major theme, of course, in Luther's works) within the Christian tradition as a whole, as well as the general question of the intellectual origins of the European Reformation, especially in Germany and Switzerland.

My immersion in Christian theology lasted much longer than I had anticipated, partly because it proved so interesting, and partly because I soon realized that there was so much I needed to learn. In fact, it was not until 1995 that I felt I understood enough about the history and methods of Christian theology to begin writing seriously about the relationship of the natural sciences and theology. However, I immediately began reading works about the relation of science and faith to get a sense of the questions being asked and the approaches being adopted. And so I came across Torrance's work *Theological Science*⁵ which I bought in Heffer's bookshop in Cambridge on 2 June 1979 and then devoured over the next few weeks.

By the time I had finished this book, I knew that exploring the relation of science and theology was going to be hugely stimulating, just as I also knew that Torrance was someone I would be engaging in detail with both pleasure and profit. It was as if someone had turned a light on so that I could see things in a new way. Torrance brought a new intellectual clarity and rigor to my reflections, allowing me to see connections and correlations which I otherwise might have missed. *Theological Science* offered me a manifesto for intellectual engagement in two ways: first, it encouraged interdisciplinary dialogue between theology and the natural sciences, and second, it set out an intellectual framework for its pursuit by creating intellectual space for that interaction while preserving the distinct identity of both fields of research.

Having by then read many more of his books, I finally met Torrance in 1986. This was a completely fortuitous encounter. I had been invited to a conference of younger theologians to explore how we might think about the relation of science and theology. We were told that some invited guests would be present, but no mention was made of any specific names. The conference was held in a wonderful location — St. George's House, an intellectual retreat center right in the heart of Windsor Castle. Although the event was due to start at 4:00 p.m., for some reason I wrote this down in my diary as "14:00." As a result, I

5 Thomas F. Torrance, *Theological Science* (London: Oxford University Press, 1969).

arrived two hours early. The conference organizers were mildly amused at my embarrassment and suggested that I make myself comfortable while I waited for things to get under way. They showed me into a rather splendid Victorian sitting-room, telling me that someone else had also arrived early and that we might as well get to know each other.

And so I met Torrance, who had made the long journey from Edinburgh to Windsor earlier that day. We spent the next two hours in discussion, focusing especially on his *Theological Science*. The rest of the conference was quite interesting, but there was no doubt in my mind as to its intellectual highlight. I went back to Oxford with my mind racing, having realized that the relation of science and theology was not merely important; it was conceptually exciting.

Torrance's *Theological Science* was a book that I would return to at several points in my career. From my notes, I can see that I gave it a close reading on three occasions. As I have already indicated, the first such reading took place in June 1979. What Torrance provided me with at that critical stage in my development was a theological map which allowed me to respect the fundamental difference between theological science and the natural sciences, while at the same time seeing them as aspects of a greater human quest to understand reality. What particularly impressed me about Torrance was that he obviously had understood some of the core themes of a scientific research culture, especially within the physical sciences. My two subsequent re-readings of that work have persuaded me that the views about the methods of the natural sciences which Torrance expressed in 1969 have stood the test of time remarkably well.

Although not a professional scientist, Torrance clearly managed to absorb the fundamental principles of the scientific method while focusing especially on some themes in modern physics. He does not engage with the biological sciences and omits serious engagement with some areas of physics which I personally think are theologically enriching, particularly quantum field theory. But these are mere niggles. Torrance has clearly got the basics of the scientific method right and has grasped its theological significance. Not all theologians have managed to do this. If I might give an obvious example, I find myself constantly frustrated by the late Wolfhart Pannenberg's idiosyncratic misreading of scientific concepts and his seeming failure to come to terms with the fundamental scientific principle that research methods have to be adapted to the objects of investigation.⁶ This is an insight of major theological importance, and Torrance has firmly grasped it.

6 This is especially evident in Wolfhart Pannenberg, *Wissenschaftstheorie und Theologie* (Frankfurt am Main: Suhrkamp Verlag, 1977). For the many problems with Pannenberg's approach, see Daniel R. Alvarez, "A Critique of Wolfhart Pannenberg's Scientific Theology," *Zygon* 11, no. 3 (2013): 224-50.

I read *Theological Science* in detail for the second time in preparing for my intellectual biography of Torrance early in 1998.⁷ Whereas my first close reading of this book two decades earlier had been driven by my own yearning to develop a coherent understanding of the relation of science and faith, my second was driven by what I hope was an equally respectful yearning to understand the development of Torrance's own theological vision, and above all the emergence of his distinct understanding of the relation of theology and the natural sciences. How did Torrance develop these ideas? What was their origin? And most importantly, what chronological account could I offer of their emergence?

It proved, I think, relatively easy to give an account of the fundamental intellectual themes of Torrance's mature understanding of the relation between science and theology. What proved more elusive was filling in the fine details of the process of chronological development that led to this viewpoint. Torrance published relatively little on the relation between the natural sciences and Christian theology before *Theological Science*. Yet there are good reasons for thinking that some of his core insights formed early in his career, partly through his reading of Daniel Lamont's *Christ and the World of Thought* (1934), which set out a vision of a coherent theological engagement with intellectual culture, including the natural sciences.⁸ Through Lamont, Torrance discovered the writings of the theologian Karl Heim (1874-1958), who held that Christian theology was under an obligation to interact with both the natural order and the natural sciences. For a theologian to ignore the issues thrown up by the natural sciences is, according to Heim, "a rebellion against God, who has placed us in a reality which inevitably confronts us with questions of this kind, and who has given us an intelligence which cannot rest until we have sought for some sort of answer to these questions."⁹

The influence of Lamont is evident in a course of lectures on "Science and Theology" which Torrance delivered while he served as Professor of Systematic Theology at Auburn Theological Seminary, New York, during the academic year 1938-39.¹⁰ In these lectures, Torrance argued that science and theology should

7 Alister E. McGrath, *T. F. Torrance: An Intellectual Biography* (Edinburgh: T&T Clark, 2000).

8 To judge by his citations in his early lectures, Torrance was particularly influenced by two of his former Edinburgh lecturers: Hugh Ross Mackintosh (1870-1936) and Lamont (1869-1950).

9 Karl Heim, *Christian Faith and Natural Science* (London: SCM Press, 1953), 30.

10 I cite extensively from the 61-page typescript of these lectures entitled "Science and Theology," in McGrath, *T. F. Torrance*, 199-205. The TS may now be found in the Thomas F. Torrance Manuscript Collection in the Special Collections, Princeton Theological Seminary Library.

not to be understood as two disconnected and non-interacting disciplines, as if there could be two hermetically-sealed compartments within the mind that exclude interaction as a matter of principle. Torrance highlighted the importance of “a belief in the ultimate consistency of things as they are in themselves” for both science and theology. But how was this belief in the ultimate coherence of reality to be affirmed? The scientist may well believe “that there is a principle of order in the universe” which the natural sciences can uncover and explore. But can they account for it? Theology, on the other hand, is able to offer an account of that ordering seen from its own distinct perspective, which it grounds in the nature of the Christian God.

Torrance’s approach to the relation of science and theology clearly mirrors that of Lamont, although Torrance develops some of his ideas in new directions. For Torrance, the natural sciences aim at accurate description and generalization but cannot strictly be said to offer explanations which go beyond a simple re-description of the natural world. “Science cannot tell us anything about the ultimate origin or ends of things. If these questions are to be answered, they must be answered within the sphere of religion.”¹¹ Torrance thus affirms the complementarity of science and theology, provided that both are correctly understood.

Science only informs us what light is thrown upon reality by the empirical observation of the facts of external nature. When science claims that this is all that can be said, it is no longer science but the species of philosophical theory called naturalism.¹²

Yet we find little from Torrance’s pen on this topic in the two decades following those lectures. *Theological Science* was published in 1969 and represents a significantly developed and modified version of his 1959 Hewett lectures delivered at Union Theological Seminary, New York, and two other centres. There was already a connection between Torrance and Union Seminary. As noted earlier, Torrance served as Professor of Systematic Theology at Auburn Theological Seminary for the 1938-39 academic year. This seminary was subsequently incorporated into Union Theological Seminary shortly after Torrance’s departure in the summer of 1939. Yet I could find virtually nothing to help me understand the process of the text’s development during that 10 year period. There were tantalizing hints of that process of development at many points in his published writings, but I had no means of correlating these hints into a coherent narrative.

11 Torrance, “Science and Theology,” 11. Note also Torrance’s statement that “science simply describes the behaviour of things as phenomena,” *ibid.*, 42.

12 Torrance, “Science and Theology,” 14.

Let me give an example of such hints. In July 1964, Torrance published an editorial in the journal *Theology Today* dealing with some aspects of contemporary ecumenical debates. It is impossible to read the early parts of that editorial without seeing parallels with *Theological Science*. Some sections of this article, located midway between the original lectures of 1959 and the publication of *Theological Science* in 1969, offer a tantalizingly brief glimpse of an earlier formulation of some of the major work's core themes. The following passage is especially significant:

Science refers to the kind of knowledge which is forced upon us when we are true to the facts we are up against. Here we do not think in the way we want to think, but in the way we have to think if we are to do justice to the "object" we are investigating . . . The rational person, free though he is, thinks as he is compelled to think by the external world. Science is a rigorous extension of that rationality in which we distinguish what is "out there" from our own subjective "images." In science we ask questions and answer them under the compulsion of what is "over against us," and so let our thoughts take shape in accordance with the nature of what we experience and under its pressure upon us.

Scientific thinking is not free thinking, but thinking bound to its chosen object, thinking which develops special modes of inquiry and proof appropriate to the nature of that object. Because a special science is bound to its own field in that way, it will not allow another department of knowledge working in quite a different field to dictate to it on its own ground, either in prescribing its methods or in predetermining its results. Rather does each science allow its own subject-matter to determine how knowledge of it is to be developed and tested, for method and subject-matter are not to be separated.¹³

We find precisely these thoughts set out and developed at much greater length and in substantially more detail in *Theological Science*. Those of you who were taught Christian dogmatics at Edinburgh by Torrance may well recognise these words from the first of his lectures on Christology in which he unfolded the basis of his understanding of theological method and the tasks of Christology.¹⁴

And finally, I read *Theological Science* again, closely and completely, in the spring of 2016 in preparation for this lecture this afternoon. Once more, my agenda had changed. My concern this time round was not to develop my own ideas, nor to understand the historical development of Torrance's ideas, but rather to reflect on the important question of Torrance's potential theological

13 Thomas F. Torrance, "Science, Theology and Unity," *Theology Today* 21 (1964): 149-50.

14 Thomas F. Torrance, *Incarnation: The Person and Life of Christ*, ed. Robert T. Walker (Downers Grove, IL: InterVarsity Press, 2015), 4-5.

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legacy. What is there in Torrance's theological work — above all, of course, *Theological Science* — that a future generation might find useful and helpful? I have already highlighted some broad general areas in which Torrance might have some potential appeal to the future. I would now like to focus down and become somewhat more specific.

So let me begin my reflections on Torrance's significance by asking this question: why did Torrance choose to engage the natural sciences in his lectures of 1959? The guidelines for the Hewett Lectures did not oblige Torrance to speak on this topic; it was clearly his own choice. Torrance tells us that the background to these lectures lay in his friendship with the prominent British physicist Sir Bernard Lovell (1913–2012), who served as the first Director of Jodrell Bank Observatory. Lovell was a cousin of Margaret Edith Spear, whom Torrance married in October 1946. Torrance's ensuing conversations with Lovell raised some important questions. How did theology compare to the natural sciences? Could theology be described as *scientific* in any meaningful sense?

These seemed to be important questions to Torrance. And he believed that they had not been engaged particularly well by the theologian whom he had come to regard as something of a lodestar — Karl Barth. Torrance clearly felt that Barth's discussion of the important theme of theology as a science "fell somewhat short" of what he had expected and of what he believed to be necessary for the task of theological reflection.¹⁵ For Torrance, theology needed to advance "through and beyond Barth" to develop such themes properly, exploring the "profound harmonies and symmetries of the divine grace" which expressed the "inner logic of God's creative and redemptive operations in the universe."¹⁶

So was Torrance right to be critical of Barth here? I have to confess that I myself arrived at a similar judgment in the 1980s as I tried to develop a theological framework to help me engage the relation of theology and the natural sciences. As I will make clear in a moment, Barth has some very important things to say in this area. Yet I must admit that I found Emil Brunner a more engaging theological conversation partner at this point, especially in his landmark work on anthropology, *Man in Revolt*, in which he attempts to delineate a Christian account of the foundations and limits of the natural sciences and offers what I

15 Note the opening comments in Thomas F. Torrance, "My Interaction with Karl Barth," in *How Karl Barth Changed My Mind*, ed. Donald K. McKim (Grand Rapids, MI: Eerdmans, 1986), 52-64.

16 Thomas F. Torrance, "Newton, Einstein and Scientific Theology," *Religious Studies* 8, no. 3 (1972): 233-50; quote at 248. Cf. Thomas F. Torrance, *Transformation & Convergence in the Frame of Knowledge: Explorations in the Interrelations of Scientific and Theological Enterprise* (Grand Rapids, MI: Eerdmans, 1984), 282.

personally found to be quite helpful reflections on both Marxist and Freudian accounts of human nature.¹⁷ I keynoted a conference at Zurich back in September 2016 to mark the 50th anniversary of Brunner's death, and it became clear from the other presentations given on that occasion that he left behind a usable theological legacy.

In fairness, however, I must immediately emphasize how helpful Barth is to a principled dialogue between theology and the natural sciences, mainly on account of his insistence that it is not possible to develop a universal method capable of being applied across all disciplines. Rather, Barth argued that it was necessary to identify the unique object of Christian theology and respond in a manner which was consonant with its distinctive characteristics. Although the basic features of this idea can be seen in Barth's earlier writings, the idea is set forth with particular clarity in his 1927 *Göttingen Dogmatics*. In this important work, Barth criticized the views of Hans Hinrich Wendt (1853-1928), who had argued that a "scientific" knowledge was not determined by nor dependent upon the specific nature of its subject matter and that the same research method was more or less applicable to all intellectual disciplines.¹⁸

Wendt's view had earlier been criticized by Martin Kähler (1835-1912), who insisted that the specific object of a discipline must determine its methods.¹⁹ Barth rightly sided with Kähler, declaring that it was essential to respect the unique subject matter of Christian theology and respond accordingly.²⁰ Barth's vigorous defense of the distinctiveness of Christian theology prompted a response from the philosopher Heinrich Scholz, who argued for a universal method capable of being applied to all disciplines.²¹ There is much more that needs to be said about the background to this discussion, but perhaps you will allow me to refer to my esteemed Oxford colleague Johannes Zachhuber, who sets the background to this debate superbly.

Torrance, in building on Barth's approach, sets out two basic principles. First, theology is to be understood as a human discipline which aims to use human reason to produce, to the extent that this is possible, an ordered account of what can be

17 Alister E. McGrath, *Emil Brunner: A Reappraisal* (Oxford: Wiley Blackwell, 2014), 133-153.

18 Hans Hinrich Wendt, *System der christlichen Lehre*, vol. 1 (Göttingen: Vandenhoeck & Ruprecht, 1907), 2-3.

19 Martin Kähler, *Die Wissenschaft der christlichen Lehre* (Leipzig: Deichert, 1893), 5.

20 Karl Barth, *Die christliche Theologie im Entwurf* (Munich: Kaiser Verlag, 1927), 115.

21 For the background, see the outstanding study of Johannes Zachhuber, *Theology as Science in Nineteenth-Century Germany: From F. C. Baur to Ernst Troeltsch* (Oxford: Oxford University Press, 2013).

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known of its object. It shares this desire with other sciences, including the natural sciences. Second, theology *alone* recognizes the self-revelation of God in Christ as its object, and hence as the sole foundation and criterion of its basic statements. Colin Gunton nicely summarizes Torrance's concerns here in these words:

God's objective truth confronts us all with a demand which our subjective rationality may seek to encompass, according to both God's and its limits, but which must never stray over those strict limits.²²

Torrance's scientifically informed and engaged approach contrasts sharply with that of Wolfhart Pannenberg, whose theological project seems to me to mark a reversion to the problematic modernist notion that a single research method can be applied to all disciplines.²³ Pannenberg's approach, particularly as set out in his *Theology and the Philosophy of Science*, is similar to that of Scholz in that it shows a questionable grasp of the methods of the natural sciences and is both complicated and muddled by his idiosyncratic notion of a "field." Torrance, in marked contrast, has a good grasp of the methods of the natural sciences and a surer sense of their theological relevance. He has a secure grasp of the fundamental point that both Christian theology and the natural sciences "recognize the impossibility of separating out the way in which knowledge arises from the actual knowledge that it attains."²⁴

Torrance argued that both these principles could be upheld, while respecting the genuine differences between theology and the natural sciences, if it was agreed that all intellectual disciplines or sciences are under an intrinsic obligation to give an account of reality "according to its distinct nature (Greek: *kata physin*)."²⁵ For Torrance, this means that both scientists and theologians are called to "think only in accordance with the nature of the given."²⁶ 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

22 Colin E. Gunton, "Eastern and Western Trinities: Being and Person. T. F. Torrance's Doctrine of God," in *The Promise of Trinitarian Theology: Theologians in Dialogue with T. F. Torrance*, ed. Elmer L. Colyer (Lanham, MD: Rowman & Littlefield, 2001), 115.

23 Alvarez, "A Critique of Wolfhart Pannenberg's Scientific Theology."

24 Torrance, *Theological Science*, 10.

25 Ibid.

26 Thomas F. Torrance, *Theology in Reconstruction* (Grand Rapids, MI: Eerdmans, 1996), 9.

first principles. In the case of the natural sciences, this “given” is the world of nature; in the case of theology, it is God’s self-revelation in Christ.

Physics, biology, and psychology — to mention just a few examples — each have their own vocabularies and research methods and engage with nature at their own distinctive levels. This point has long been understood and is not controversial. For example, consider the comments of J. Robert Oppenheimer (1904-67), widely regarded as one of America’s finest nuclear physicists:

Every science has its own language . . . Everything the chemist observes and describes can be talked about in terms of atomic mechanics, and most of it at least can be understood. Yet no one suggests that, in dealing with the complex chemical forms which are of biological interest, the language of atomic physics would be helpful. Rather it would tend to obscure the great regularities of biochemistry, as the dynamic description of gas would obscure its thermodynamic behaviour.²⁷

Oppenheimer rightly notes that each natural science develops a vocabulary and a working method which is appropriated or adapted to its object. There is no “universal” scientific method. Each science develops procedures which are adapted to the nature of its own particular object.

There are, of course, questions that need to be raised here, for example concerning the place of social constructs in theology and the emergent properties of Christian doctrines — such as their demarcated social roles which emerge within specific communal or cultural contexts. Yet Torrance’s approach, suitably extended, is perfectly capable of dealing with these questions. It is thus important to note that we find this same recognition on multiple methodologies within the scientific enterprise in the writings of Roy Bhaskar (1944-2014), perhaps one of the most significant recent writers on the philosophy of the social sciences. Bhaskar offers theology a rich, informing framework for its own explorations as well as for the calibration of its intellectual possibilities in relation to other disciplines.

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.²⁸

27 J. Robert Oppenheimer, *Science and the Common Understanding* (London: Oxford University Press, 1954), 87.

28 Roy Bhaskar, *The Possibility of Naturalism: A Philosophical Critique of the Contemporary Human Sciences*, 3rd ed. (London: Routledge, 1998), 3.

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Torrance thus affirms the scientific character of theology, while insisting that there is no generalized or universal methodology which can be applied uncritically to all sciences. Like Bhaskar, Torrance affirms that “the nature of the object . . . determines the form of its possible science.” In other words, ontology determines epistemology. In that each science deals with a different object, it is under an obligation to respond to that object according to its distinctive nature. The methods which are appropriate to the study of one object cannot be abstracted and applied to everything else. Each science develops procedures which are appropriate to the nature of its own particular object in which it “has solved its own inductive problem of how to arrive at a general conclusion from a limited set of particular observations.”²⁹ Theology thus has a legitimate position within the spectrum of scientific possibilities.

Now Torrance could perhaps have made more of this point if he had engaged more thoroughly with the field of quantum mechanics. He could, for example, have drawn on Werner Heisenberg (1901–76), who emphasized that exploring a new field or area of reality inevitably involved the development of a new language and way of thinking which were fundamentally adapted to what was being experienced and encountered: “Our thought processes will always develop a language suitable to the envisaged domain of reality that accurately reflects the way things are in this domain.”³⁰ I cannot help but feel that there is a missed opportunity here. Yet Torrance’s point stands on its own merits.

Torrance’s vision of theology thus rests on a fundamental conviction that there exists a real world outside the human mind which is grasped — not constructed by — human reason. Reason, in turn, engages with each aspect of that real world according to its distinct identity and property, rather than laying down in advance how theology (or any other science) can do its work. Torrance put this point particularly clearly in his Keese Lecture delivered at the University of Tennessee at Chattanooga in April 1971:

Scientific theology, no less than natural science, is concerned with the discovery of appropriate modes of rationality or cognitive instruments with which to enter into the heart of religious experience, and therefore with the development of axiomatic concepts with which to allow its interior principles to be disclosed, and in that light to understand, as far as we may, the rational structure of the whole field of God’s interaction with man and the world he has made.³¹

29 Torrance, *Theological Science*, 106.

30 Werner Heisenberg, *Ordnung der Wirklichkeit* (Munich: Piper, 1986), 44.

31 Torrance, “Newton, Einstein and Scientific Theology,” 244.

Torrance thus locates Christian theology within the broad spectrum of human attempts to engage the real world while identifying and respecting its distinct nature. Christian theology can be understood as a “theory,” a “speculative penetration into the structure of things,” or a “refined ‘lens’ through which we see into the underlying order of nature or rather allow it to disclose itself to us.”³²

Let me conclude by standing back from the fine detail of Torrance’s approach in *Theological Science* and reflect on its broader significance as a “Manifesto for Intellectual Engagement.” Earlier in this lecture, I suggested that one of the factors involved in persuading a future generation to retrieve the ideas and approaches of a theologian from the past is a sense that this theologian offers them resources and approaches which exceed those of the present in helping them to engage significant questions with intellectual integrity. I want to suggest that Torrance speaks plausibly and powerfully to theologians such as myself who reject intellectual isolationism on the one hand, and intellectual accommodationism on the other. Theology needs to be able to speak into our culture without being absorbed by it. Yet being *distinct* does not entail being *disconnected*.

If theology is to maintain a significant position as a voice in contemporary cultural and academic debates, it needs to have its own sense of identity and resilience, linked with both the capacity and the motivation for engaging others. I am convinced that Torrance offers us a framework which allows us to see theology as a legitimate discipline with its own distinct integrity and methods that arise from the specific objects of its engagement. It does not need to be defensive in that it can take its proper and legitimate place within the broad spectrum of human scientific disciplines, each of which develops research methods and vocabularies adapted to the object of its investigation and, in the case of Christian theology, its adoration.

There are, of course, other theologians who also offer us some such framework. Yet Torrance’s characteristic approach has a particular theological seriousness and depth which make me believe that it will meet the concerns of those who rightly have misgivings about more pragmatic approaches to dialogue and engagement which seem inattentive towards preserving the distinct identity of the Christian community of faith. Torrance frames such dialogue within a rigorous theological perspective which both encourages and informs our endeavours. *Theological Science* is indeed a “Manifesto for Intellectual Engagement” — not simply for the natural sciences but for any other human attempt to come to terms with human nature and this strange universe within which we find ourselves.

32 Torrance, “Newton, Einstein and Scientific Theology,” 242.