

THE SECOND WAY

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I am referring here to the second proof given by St. Thomas for the existence of God. It is sometimes called the proof from causality. But this description does not bring out the precise point of the proof, and often leads to the objection at the completion of the proof: "But why does God exist, i.e. what caused God?". If there is a need to look for the causes of things, it is argued, if that in fact is what science is concerned with, why should the thing which is called God be exempt? Moreover, why is it necessary to bring God into the picture over and above the causes or explanations discovered by the scientific investigation of things?

An improper description of the proof indicates a basic misunderstanding of its import and necessarily leads to a belief that it does not prove what it purports to prove. In order to present it, then, so that it is properly understood, we need first of all to describe it properly. It is not strictly speaking a proof from the fact of causality as such, but from a feature of causality as we know it, indeed from something inherent in the causation we have experience of in regard to natural things. It comes from a realisation that such causality has all the marks of being something secondary.

This feature of causality in nature has been somewhat obscured in modern times owing to the changed approach to the study of the natural sciences. For modern science does not simply limit its investigation of the natural world to what we can know by empirical observations, i.e. to the qualities of things (phenomena) we can detect by our external senses, but it also limits the conclusions we can draw or the laws we can induce from such observations to what can be empirically observed, or imagined in sensible terms. To this basic knowledge it allows an extension to what we can know by measurements, i.e. to what more we can know about the quantitative relations belonging to such phenomena.

In regard to causality, this has meant that natural causality is seen mainly in materialist terms, where explanations are sought only in terms of basic material elements, atoms, particles etc. and physical forces, waves etc. That is to say, in Aristotle's language of causality, the only causes to be investigated (determined a priori) are the material causes and efficient causes operating at the more material level. By definition, then, science does not concern itself with anything "outside nature".

From this viewpoint, as Kant realised, the search for causes beyond natural causes does not make much sense. Any attempt to show that natural causes have the feature of being secondary rather than primary seems therefore excluded by such re-definition. Indeed, as Hume demonstrated, to Kant's dismay, to limit our knowledge to the sensed qualities of things (phenomena), without any intellectual penetration to the substances of things, destroys the very notion of objective causality. The history of the modern philosophy of science is of a series of vain attempts to escape from the logic of this empiricist presupposition.

The other aspect of the modern scientific approach, the emphasis on the value of measurement, brings into play Mathematics. Mysteriously, despite its affinity with imagination rather than observation, Mathematics seems to provide a deeper insight into the workings of nature and enables us to see some sort of order of explanation or causality that can be used to manage the information obtained by our sense observations. We might say that it gives (quantitative) form to the "facts" discovered by empirical science.

This allows for another "factor" in the traditional list of causes, namely the formal cause, to be included in the notion of science. But, in regard to our interest herein, this is still only a causality

within nature, and that too concerned only or mainly with the accident of quantity. Accordingly, there is no call to go beyond the notion of causal explanations belonging strictly to the natural or physical order of things resolvable into objects of our senses and imagination. The modern scientists are content, then, to work only with a notion of causality operating with the limits of the qualities and quantities of physical things observable by the senses or amenable to the “creativity” of the imagination.

A number of things, both positive and negative, can be noted about this new notion of the scope of science (and reason). On the positive side, we have the development of a new scientific method which, though known in pre-modern times, was little appreciated. This is the physico-mathematical method that, when applied generally in regard to the investigation of nature, has proved to be so powerful, not towards our understanding of the things of nature as such, but to our control of them.

In pre-modern times the sciences which used such a composite methodology were called “medial sciences”, and examples given of such were Astronomy and Perspective or Optics. St. Thomas described them very accurately, pointing out that whilst formally mathematical they were substantially physical sciences; that is to say, though one developed conclusions in them mathematically, these conclusions had to be verified experimentally before they could be accepted within the science. Another way of putting this was that the composite or mixed science was formally mathematical and materially natural or physical.

St. Thomas then neatly distinguished these kinds of science from pure Mathematics and pure Natural Science (then also known as Natural Philosophy). Though St. Thomas saw these distinctions it seems that few others did. For the new science so dominated the intellectual scene from the time of Galileo that it tended to push the study of the pure sciences, as distinct disciplines, into the background. This is particularly so with regard to Natural Science, which, if not all at once, has been completely submerged into the material side of the new physico-mathematical sciences.¹

What is significant about this is that the explanation of nature in terms of natural or qualitative forms or formal causes has been supplanted by the concentration upon the quantitative aspects of nature demanded by the new scientific method. That is to say, so far as natural science as such is concerned, only the more material side of causality in regard to the investigation of natural bodies and forces has been retained. For the “facts” of nature only serve as “matter” for formal mathematical treatment in the physico-mathematical sciences.

Though this evacuation of natural forms (both accidental and substantial) from nature is not of great significance within the medial sciences, and may be to a certain extent necessary, if allowed to extend into the pure natural sciences, it has an exceedingly negative effect upon our understanding of the physical world and, most importantly for our discussion here, upon our understanding of its necessary dependence upon a cause outside it.

In effect this materialistic interpretation of nature confines the rational analysis of our “experience” to what is still observable at the sense level (or imaginable in sensible terms) and

¹ cf. article by William Carroll “The Scientific Revolution and Contemporary Discourse on Faith and Reason” Thomistic Institute, University of Notre Dame 16-23 July 1999. “It seems to me that we can best understand the history of science in the fourteenth through the seventeenth centuries -- and, indeed, beyond to our own time -- if we recognize that some of the greatest accomplishments in the sciences have taken place in mathematical physics -- that intermediate science between mathematics and physics. The careful distinctions drawn by Albert the Great and Thomas Aquinas frequently have been lost in the midst of the great advances mathematical physicists have achieved: the confusion is already in Descartes, who, as we have seen, called inertia the first law of nature, rather than recognizing it, as Newton did, as a mathematical principle of natural philosophy.”

deprives us of any penetration into the intelligible content not only of the underlying natural substances but even of the qualities which are first presented to us by our senses (colours, sounds etc). What amounts to only a methodological materialism² in the new scientific method, when taken to be true for the whole of our understanding of the material world, can result, and in fact has resulted, in a frank and false empiricism. Thus, not only did we lose touch with the substances of natural things but also we found, like Locke, that the proper qualities (“secondary” in Locke’s terminology) of such evaporated into subjectivity.

The new natural scientist does not notice this so much, for he is absorbed in the mathematisation process that dominates his method. The material upon which this is worked becomes reduced to little else than particles and/or waves of we know not. What it has meant, then, is the virtual disappearance of the natural scientist in the previous sense, for such pure natural science, also called natural philosophy, has become a thing of the past. This is not completely the case, for there will always be those who admire and study the wonderful natural and visible forms of things for their own sake – from which we are, as St. Paul points out, readily drawn to recognise their invisible cause.

However, we can say that, officially, i.e. the officials of the new rule of science have declared it so, the pure notion of natural science, or natural philosophy, is “dead”. We may gather some inkling from this of the reason why, in modern times, the Author of Nature also came to be declared dead. This is of some relevance, of course, to the principal point of this paper.

But, for the moment, let us look a little more closely at the other negative consequences of the rise to prominence of the new scientific method. The most important, from a traditional point of view, was the ditching of the final cause (teleology) as a mode of scientific explanation. Not that the modern scientists regarded this as something negative. Indeed, it was buried with very public ceremony. For it was held to be one of the main reasons for the stubborn adherence to all sorts of wrong-headed notions and the stagnation of science for centuries after Aristotle.

This was to some extent a valid criticism, but hardly fair as regards either Greek science as a whole, or the role of the final cause within it, given the history of science in the pre-modern period. For the fault lay in the absence of empirical investigations from the time of Aristotle to the time of his re-discovery in the early Middle Ages. Aristotle himself was a champion of our having such an empirical basis of natural science. Where it was available to him his science could hardly be faulted even by modern standards. Where it was not, perhaps understandably, he went along with the human tendency to fill in the science with a great deal of speculation – something there is no lack of today. It is quite significant that St. Thomas recognised that this speculative element was present in the Ptolemaic astronomy, and he pointed out that epicycles in the theory were to be regarded as posited for the sake of saving the appearances only, which might be as well explained by another theory. (cf. I, 32, 1 ad 2)

To be fair, we should take into account the demise of the scientific culture of Greek civilisation not long after Aristotle, when attention turned away from science to politics and conquest. The progress of natural science came to a halt for reasons extrinsic to it. Then with the collapse of civilisation altogether at the end of the Roman Empire we had a long period of great turbulence before Christianity began to develop its own kind of civilised order. Then, the works of Greek natural science and in particular those of Aristotle were again recovered only from about the 11th century.

A new spirit of enquiry and empirical investigation followed soon after and was gathering

² It is not, as is clear, however, a pure materialism or empiricism because the composite nature of the scientific method gives a formal role to Mathematics. A place, too, needed to be found for a formal (mathematical) logic.

momentum apace when European civilisation itself, hardly out of the embryonic stage, began to break up. The new spirit of enquiry, due in large part to the freedom allowed by the Church to the adoption of the Greek rational spirit had, however, begun to take root. This, together with the invention of new and improved scientific instruments, such as the telescope, was to have the effect of dismantling a lot of the speculative element (“saving the appearances”) in ancient Greek natural science (most dramatically in astronomy) as summed up mainly in Aristotle. But this new spirit of enquiry can be attributed at least in part to the Greek genius manifested most clearly in Aristotle. He himself would have been happy to see the speculative apparatus of his natural science give way to observations that proved them wrong, and to better hypotheses.

This revived spirit is perhaps nowhere more manifest than in St. Thomas's principal mentor and teacher in philosophy and theology, St. Albert the Great. the epithet “great “ being conferred on him rather for his amazing experimental work than for his other intellectual work. His empirical spirit, which he derived from Aristotle, was as modern as today. Having catalogued and described all the trees, plants, and herbs known in his time, he observed, “all that is here set down is the result of our own experience, or has been borrowed from authors whom we know to have written what their personal experience confirmed; for in these matters experience alone can give certainty”. (Works, Vol. 12)

The renewed general spirit of rational enquiry reached its height in the thirteenth century as is evidenced by the establishment of the great universities of Paris, Bologna, Padua, Toulouse, Montpellier, Bordeaux, Siena, Bourges, Orleans, Salamanca, Valladolid, Vienna, Heidelberg, Cologne, Oxford, and Cambridge and scores of other European universities.

Unfortunately, however, the spectacular success of the new scientific method, and the limitations thereby arbitrarily imposed upon the human mind referred to above, brought about the familiar human error (had not without intellectual pride) of “throwing out the baby with the bathwater”. All too readily the supposed deficiency in Aristotle's scientific method was identified with his reliance upon final causality. But, the fault, as already observed, was in the general tendency to speculate upon a limited empirical basis, not in Aristotle's reliance upon any particular mode of causality, which causalities can be seen to be based in the most elementary experience and common sense.

In the study of the things of nature the pre-modern scientists, i.e. the philosophers of nature, used the fourfold lines of explanation, and in the common affairs of life we do too, all the time, and especially do we make use of the final cause, “the cause of causes”. The constraint put upon us by the new scientific method is therefore a most unnatural one.

The arbitrary restriction of the scientific method to those explanatory principles (formally mathematical and materially physical) belonging to the physico-mathematical or “medial” sciences led to the ditching of natural final causality, as also of physical (non-mathematical) formal causality. Indeed, these two kinds of lines of explanation stand or fall together. For, as Aristotle had classically said, the natural form represents the end had within (entelechy). The result has been spectacularly positive so far as our control of natural forces is concerned, but disastrously negative so far as our appreciation of the beauty and goodness of the natural order within which we live, and our sense of gratitude to its Maker.

The psychological aspect of all this is most significant. For this shift of focus, despite the protestations of it inducing scientific humility, of making us realise that we are only one small speck in the vastness of the material universe, has in fact magnified our sense of our own importance and of our feeling of power over nature. God is no longer in total control; we are. Every new scientific break-through seems to confirm this sentiment. We are, it seems, on the point of re-designing

human nature itself. As Chesterton saw, when we stop believing in God we do not believe in nothing; we begin to believe in anything.

The randomness imputed to the workings of nature by the materialist theory of Evolution only re-inforces our confidence that Science (i.e. us) can make of nature what we will. This is the great delusion that sets in once we begin to treat nature as a formless lump of putty in our hands. Instead of our seeing nature as the exquisite work of the divine artisan the scientist of nature is presented by many as a master technician, lording over everything including, unfortunately, hapless humans who are reckoned as unfit to survive.

Richard Dawkins and others have got it as wrong as one could possibly get it. It is not the God delusion we suffer from but an all but universal self-delusion. Moreover, it is not religion that has induced this; it is Science, or rather a mistaken view of science.³ Despite the implications of his theory no (materialist) evolutionist includes himself within this randomly determined process. He is too conscious of his God-given freedom, and inherent rational power. We all believe in a supreme being, a lord over nature. But some think there are two contenders for the position – God and us. The latter we tend to hide by substituting abstractions that represent our will, such as Science and Humanity.

It has been necessary to go to such lengths to explain the influence of the modern scientific method and the nature of science as currently understood before entering upon the exposition of the second way or proof for the existence of God. For, what the proof leads to is God, or the First Cause, as the author of the whole of nature, and so outside the natural order. It is a proof that starts from natural “facts”, i.e. natural causation, but which leads us beyond natural causation. For no proof leads to what we already know and in this case that is the order of natural causes, or natural causation. So it is rather pointless to ask for the natural cause of God, or, in other words, the secondary cause of the primary cause.

We are now in a better position to appreciate the proof. It can be stated succinctly, as St Thomas did, without the wearisome task of having to explain the true scope of science, to clear away as it were the thicket of confusion that has grown up around the proof since the time of St. Thomas. What needs to be examined in order to see the force of the proof is natural causation. We are here concentrating upon only one line of natural causality, namely, efficient causality. Fire heats, light illuminates, horses draw carriages, horsepower drives vehicles, orange trees produce oranges, trees grow tall, lions chase and bring down antelopes, and so on. What do they all have in common as natural causes?

St. Thomas identifies the most common characteristic of these kinds of activity. They all have a beginning and an end. They are temporal. They are not always exercising their causal activity; they vary in regard to its intensity and extent. Absolutely speaking, these causes are not active from themselves; of themselves natural things only can cause. Before they exercise their causal activity they are in a state of potentiality. Even when, relatively speaking, they act from themselves they have first to be brought to act. They have somehow to be caused to cause.

This applies from the most obvious cases to the more difficult, as in respect of vital activity which superficially might be thought to involve causeless action. The implications of causeless action, as examined below, take it completely outside the order of natural causes. Moreover, so far

³ Cf. Carroll, *op.cit.* “Although many historians, philosophers, and theologians see modern science as providing, ultimately, a challenge to the God of traditional religion, such a judgment rests on questionable interpretations of the Scientific Revolution as well as on a failure to appreciate the theological and philosophical heritage of the Middle Ages.”

as the proof goes, only one instance of a caused causality will establish the necessity for admitting an uncaused cause.

We do not need to investigate what precisely heat is, or light, or force and power, or nutrition and growth, or reproduction, or how they operate in different ways. All we need to know is the general fact and its conditions. All causes that we find in nature, or all natural causes, are caused causes. Caused by what? By another natural cause? Perhaps, but hardly an adequate explanation. For that cause demands its own explanation outside itself. We can either go round in circles, or back ad infinitum. The first way is obviously futile, for it simply ends where we begun, with still no explanation for the beginning. The second is also fruitless, for if there is no first cause, i.e. no uncaused cause, there is no second and so on, no causation, right up to what is supposed to be caused (to cause).

The resolution of the problem lies clearly in the existence of a first cause that itself is not caused to cause, i.e. is not a natural cause, but one that transcends or stands outside the natural order of causation; one that is above the natural series. Indeed, its “nature” is to be uncaused, to be supernatural. Such a being will be seen to be necessarily one only, containing within itself the causal powers of all natural causes, without being limited to their natural modes. It fulfils our notion of God.

Now, we need to understand properly the transcendence of this first causality. It is the first cause but we are not to think of it as first in a series of similar causes. For, relative to this first cause, all other causes are second causes. It stands outside and above the whole of such secondary or natural causes. We can have a series of causes at this secondary level, with one being relatively first in that order of causes. But this notion of first cause has to be strictly separated from the one and only uncaused cause. By becoming accustomed to associate the very notion of causality with such secondary or caused causality, for the reasons give above, the modern mind has difficulty in getting the point of this proof.

For the purpose of tracing cause and effect within the natural order of causation, one does not need to invoke the causality of God. It is the whole point of the proof that God operates in nature through secondary causes. The whole of natural science, therefore, is unaffected by the divine causation, so far as our study of natural causes is concerned. There is absolutely no need for a “God of the gaps” in science (i.e. divine intervention at the natural level), still less for a recourse to a theory of Occasionalism in philosophy (i.e. denial of natural causation). These sort of “theistic” errors come from making the same confusion between the two orders of causation that the atheist does.

Natural causes necessarily have a beginning in time, for all natural things are finite. But one does not have to resolve the problem of whether and when time, and hence a first instance of natural causality, began (with a big bang?), in order to appreciate the force of the proof. For it does not matter if we cannot identify a first in this natural series. It is not the first cause we are talking about here, as is clear from what is said above. Aristotle appreciated this and so used the proof despite holding that there is no such beginning of time, no first cause in this temporal series. Nothing in the nature of time requires us to assign a start. Our experience of time is always from in the middle of it.

But our insight into the nature of things, and of causation, is not bound by the conditions of time and place. Part of the problem in presenting the proof lies in the fact that we have to first make the distinction between the accidental line and the essential in order to purify our notion of causality as such. For the proof is concerned only with the essential line of causation. Biological generation, for instance, belongs to the accidental line (which does not logically demand a first cause). But in

the essential line, where the very causality of one cause necessarily depends on the causality of another (as the destruction of the tree is caused by the lightning, which causation we can trace only to a certain extent to more hidden natural forces) natural causes are all evidently caused causes, which demand an uncaused or first cause. Thus our understanding of causality has to transcend the limits of natural causation.

The philosophical proof (the second way) establishes the existence of God as Creator. Indeed, it does more than that. It establishes that all causation in time must now be referred essentially to the activity of God as First and ever-present Cause. Without God nothing happens. But, then, in nature, without natural causes nothing happens. The causalities are in two different orders; the one does not intrude upon the other. Without Michelangelo the Pieta would not have been made; yet it is equally true that without his chisel it would not have been made. Do we say that because the whole of the statue can be attributed to the chisel that Michaelangelo could have been dispensed with?

It is the belief that all causality seen in nature can be fully explained from within nature that is the real problem with proving the existence of God. But we would not be able to sustain this belief if we had a proper understanding of nature, its forms and modes of causality. The arbitrary exclusiveness assigned to the modern scientific method, as described above, distorts this understanding and re-defines science and rationality mainly in mathematical terms. The intelligibility of the natural order is thereby weakened and inward focused.

The materialistic evolutionist's contribution to the debate about God is to make it look as though there need be no intelligibility or "intelligent design" demonstrated within nature, that all is the result of random chance, so as to negate altogether the need to posit an intelligence as cause. But this is a superficial and unintelligent presentation of the theory.⁴ This resort to chaos as an explanation of order, as is appreciated by any serious thinker, is destructive totally of any possibility of science. Any scientific theory is an attempt to find some rationality in the facts. Darwin's theory appealed precisely because it explained things according to an overall plan, an "intelligent design", but one which accorded with the anti-theist presuppositions of modern thinking, locating it entirely within nature.

There are in fact two extremes to be avoided in this discussion regarding natural causality. One is to deny the proper role of natural causality; the other is to exaggerate its role as to deny its secondary character. The former is what in fact happened with the advent of modern science with its physico-mathematical approach. What ensued was a mechanistic model of the physical world. Prior to Darwin the explanation of the workings of biological nature were too much in mechanical terms. Descartes had attributed the dynamism and vitality of things exclusively to an extrinsic "spiritual" cause.

The purely quantitative vision of the structure of things emptied them of all natural forms, qualities and causalities. Those not religiously inclined merely accepted this materialist vision of the world after the fashion of a self-operating machine ruled by a determinism that could be scientifically examined. There was no need to advert to the secondary character of natural causality; for there was simply no natural causality within the bodily world.

⁴ Darwin himself does not consistently propose his theory in this way. "I am aware that the conclusions arrived at in this work will be denounced by some as highly irreligious; but he who denounces them is bound to show why it is more irreligious to explain the origin of man as a distinct species by descent from some lower form, through the laws of variation and natural selection, than to explain the birth of the individual through the laws of ordinary reproduction. The birth both of the species and of the individual are equally parts of that grand sequence of events, which our minds refuse to accept as the result of blind chance." (Charles Darwin, "Descent of Man" p. 613)

To the religiously minded, such as Descartes and the Deists, the perfection of this clock-work world argued for the existence of God. But it was a God very much reduced in his role to that of a great Architect or Engineer, who might need from time to time to intervene to correct apparent failures in the perfect working of the machine (as might appear from the best physico-mathematical science of the time).

This extreme erred by denying the intrinsic efficacy (and finality) of natural things, emptying the world of its natural forms (of substance and quality). It was the error in this regard of the early phase of modern science and was a direct consequence of the new scientific (mathematico-empiricist) method. It necessarily involved a contemptuous rejection of the consideration of Aristotelian forms and ends in the natural sciences..

The opposite extreme is a sort of vitalism that rightly recognises the intrinsic dynamism and causal influences within nature but mistakenly holds them to be self-contained or self-explanatory. It rejects any efficacy and finality from outside the natural world. Hence, in religious terms it tends to pantheism or atheism. So far as modern scientific thinking is concerned the Theory of Evolution reversed the mechanistic trend and, ironically, re-introduced something of Aristotelianism into modern science. Further weakening of the infatuation of modern science with mechanistic determinism has resulted from the discovery of an irresolvable indeterminism in the operations of nature (quantum mechanics). Nonetheless the mechanistic materialism attaching to an exclusive reliance upon the physico-mathematical nature of the scientific method still underlies much of modern thinking, and still exercises an influence on the modern materialist presentations of the Theory of Evolution.

It can be said, therefore, that what Darwin did was slip in almost unnoticed the consideration of the final cause where biological science was concerned (a welcome recognition of the work of intelligence in nature), but confined it to "Nature" as some sort of self-operating system – like a search and find rocket that "selects" a target as if by itself (strangely in this case no educated person is fooled into thinking that there is no extrinsic intelligent influence involved). Darwin's theory of evolution would be quite useless without the concept of final causality. The success of natural selection supposes that the organism is accommodated to something different (evolved) because it is more "useful" to it (Darwin's own word). Ironically, Darwin's improvement upon previous scientific theories in this regard was the restoration of finality into the natural workings of the biological order.

But our proper concern here is with efficient causality, not final causality. What this kind of causality means is the sort of activity on one thing which gives rise in some other thing to a new form of existence for it or for another, be it heat, illumination, change of shape, size, reproduction, sensation, emotion, etc. In modern science this influence is still explained mechanistically reducing it to local movement of particles and/or waves, by a sort of bombardment. All this can explain is a change of position and arrangement of such elementary particles. This evacuates not only the natural diversity and gradation of the non-living forms of things in nature, such as heat, colour, specific shape and size, but also the much more marvellous forms of life and knowledge.

Naturally considered, the origination of such new and diverse forms in things requires diverse and proportionate efficient causes. But the scientific explanation that obtains reduces this causation to that of brute force or energy. However, this still does require an originating force to account for its activation. This can be seen to be quasi-unconsciously allowed for in the science fiction positing of "The Force" as some sort of invisible first cause. Without perhaps realising it the necessity for a first efficient cause or Maker is admitted, driven as it were by the logic of the second way.

Even with this deficient notion of efficient causality the full consequences of the proof follow; and we necessarily arrive at the notion of an infinitely powerful God, with all the divine attributes that automatically apply. Understandably, the evacuation of the meaning of natural causation involved in the exclusive reliance upon the modern scientific method makes it easier to ignore the implications of the secondary character of causation in nature. It will be seen, then, that the apparent force of the various objections made against the proof generally rely upon a notion of science and proof arbitrarily narrowed to the scientific method tied to physico-mathematical science.

Many a modern, otherwise respectable, philosopher and/or theologian, such as Sir Anthony Kenny, has been deceived in this regard (see my article “The First Way: a comment on Sir Anthony Kenny's interpretation of St. Thomas' proof for the existence of God”. *Universitas, July/August 2000*). But, as should be clear from the above, none of these kind of objections affect the validity of the second way.