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## SCIENCE & RELIGION IN THE WORK OF CHARLES DE KONINCK

Leslie ARMOUR

*RÉSUMÉ.* — Charles De Koninck était un philosophe des sciences qui participait en outre de manière active à la discussion de questions théologiques comme celle du dogme de l'Assomption de la Vierge Marie. Je soutiens que ce dogme cadre bien avec la philosophie des sciences chez De Koninck si l'on admet son explication de la nature du monde concret — ce monde dont la science fait abstraction — et son explication de la causalité, en particulier ses vues sur la cause universelle. Ces thèses, à leur tour, loin d'être de simples moyens d'accommoder certaines propositions théologiques, semblent tout aussi nécessaires à la compréhension de la science contemporaine et de son rapport au réel.

*SUMMARY.* — Charles De Koninck was a philosopher of science who was also active in the discussion of theological questions such as that concerning the dogma of the bodily assumption of the Virgin Mary. I argue that this dogma fits neatly with De Koninck's philosophy of science if one accepts his account of the nature of the concrete world — the world from which science abstracts — and his account of causality, especially his view of universal cause. These themes, in turn, are not simply devices for accommodating certain theological propositions but appear to be equally necessary for the understanding of contemporary science and its relation to reality.

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Students find it curious — even paradoxical — that a man who devoted himself to the study of the intellectual foundations of modern science should also have played an important part in the discussions which led up to the promulgation in 1950 of the dogma of the bodily assumption of the Virgin Mary. Charles De Koninck, though he once said in print that he understood the embarrassment<sup>1</sup> of those Catholic intellectuals who found the promulgation disturbing, felt no unease whatever. He believed that a universe which works by divine providence can also be a universe which lends itself

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1. *Laval Théologique et Philosophique*, 6, 1950, p. 358.

to explanation by scientific laws. These beliefs had both a negative and a positive aspect.

The negative aspect emphasises a certain kind of independence between science and theology. It is not unimportant in De Koninck's philosophy, but it does not account for its originality. Certainly, given that physical laws are widely regarded as probable rather than certain, given that at the level of the fundamental entities, observations inevitably influence what is observed, and given that alternative conceptualizations and the necessary use of models give science an ineradicable element of subjectivity, there are many ways in which one can evade claims about the collision of science and religion. De Koninck noted all of these elements and, more fundamentally, he argued that, since science necessarily abstracts selectively from a given reality which is invariably richer than the scientific descriptions which result, there is always a case to be made for the proposition that concrete reality has a natural priority over scientific description. But all that this shows is how the various orders of reality — especially the providential order and the order described in physics — can be understood as not conflicting with one another. De Koninck hoped for more than this.

He hoped that a positive thesis would emerge — one which ultimately showed that science and religion ultimately tie together so as to imply one another. His further efforts, both those found in religious meditations like *Ego Sapientia, la sagesse qui est Marie*<sup>2</sup>, and those found in *The Hollow Universe*<sup>3</sup>, are suggestive, even tentative, and would, I think, have undergone further development had he lived longer. It is this line of thought which I want to develop to some extent in my own way.

#### I. THE IDEA OF WISDOM AND THE NATURE OF REALITY

There are two main lines of argument. One begins specifically with the idea of wisdom and with the relations which that notion demands between the concrete and the abstract in both religion and science. The second has to do with the idea of universal cause. The two are connected in a way which will become evident, but I will deal with each in turn.

The principle involved in the problem about wisdom is to be found most clearly in *Ego Sapientia*. Indeed, the argument bears directly on De Koninck's concerns about the special subject of that book. The argument which he puts forth begins in a neo-Platonic way, though there is a sense in which, in the end, he wants to stand Philo, in whom the argument has its roots<sup>4</sup>, on his head. (Philo is not mentioned by name, but De Koninck would have expected his readers — or many of them — to recognize the source.)

2. There is a brief English version in *The Thomist*, April, 1943, pp.1-18. It was prepared just before the publication of *Ego Sapientia, La Sagesse qui est Marie* (Montréal, Fides: and Québec, Éditions de L'Université Laval, 1943.)

3. *The Hollow Universe*, London, Oxford University Press, 1960; and Québec, Presses Universitaires de Laval, 1964, pp. 79-114.

4. PHILO OF ALEXANDRIA, see *Legum Allegoria*, in *Philo*, tr. F.H. Colson and G.H. Whitaker, Cambridge, Mass., Loeb Classical Library, 1929, Vol. 1; and *De Abrahamo*, in *Philo*, Vol. VI, 1935.

De Koninck recalls the tradition that Mary said "I am wisdom". She did not say "I am wise", not even "I am the wisest of creatures". Here we have a philosophical curiosity. The issue is the predication of an abstract property upon a concrete being. It is only of God, he says, or of the transcendentals, that one can ordinarily do this. "He is goodness itself", we may say, but, unless we speak of God, we intend it metaphorically — unless, like Keats, we speak of the transcendentals. "Truth is beauty, beauty truth" is, at least, verbally possible. But "he is truth", and "he is beauty" will not do, as a rule, unless said of God. "He is truth" is, after all, a theological commonplace.

Still, there is a tradition about the Virgin Mary. She was early associated with Sophia, the traditional personification of Wisdom, and, in the Christian tradition, she took over this role from Sarah, whom Philo had identified<sup>5</sup> in just this way with wisdom itself. In De Koninck's own tradition there is the further identification of Mary as "the mother of God" and so, as De Koninck says, as quite literally the "origin" of God. ("Origin", here, is a point of orientation: Here God comes into our world.)

So tradition suggests that the rule against the predication of an abstract property on a concrete being has an exception in this case. Is this just a way of talking, a form of words making clear that the sacred is involved? De Koninck did not think so. And the reason is not so hard to find if one looks seriously at his whole discussion of the relation of the concrete and the abstract. What if one really had "wisdom"? Surely wisdom cannot itself be an abstraction. When we speak of a wise man we mean not just a man or a woman who knows a lot. Idiot savants know a lot. Nor do we mean to call attention simply to a man or a woman who has a knack for getting things done or for doing the right thing. There are many admirable people with "a lot of know-how", but we do not, necessarily, think of them as wise. Rather by someone who is "wise", we mean one who knows what to do and how to do it in the strongest sense of "knows" — someone who has real knowledge.

Wisdom, of course, is not, according to De Koninck, a special or unusual or mystical insight. It is the ordinary state of men and women carried to its ultimate development. The idea of wisdom when it has instances is not distinct from its concreteness. Now it is, of course, the essence of the claims about Mary in the Catholic traditions which De Koninck so strongly supported that it is through her, somehow, that God comes into our world as a concrete being. The perfection of our world is the existence of Jesus — a perfection which could not hold longer than it did because of the evils still latent in our world, and a perfection which can only return at the end of time when our world, in whatever way, has fulfilled itself.

Philo in whom, as I said, the argument first takes root, believed in the power of ideas. In a very particular sense so did De Koninck. In Philo's neo-Platonic view of the world, wisdom, like all the ideas, tends to have as many instances as possible within the limits of the structure formed by the instantiation (or hypostatization as he more nearly said) of other ideas. The concrete world around us is always, for Philo,

5. The identification of Sarah as Sophia occurs in *Legum Allegoria*, (see note 4 above), II, 82. *Philo*, Vol. I., p. 277.

less real than the ideas which are its guiding forms. For De Koninck the concrete is most real<sup>6</sup>. Science works by abstraction and, if taken for reality, seems to hollow out the world.

The idea of wisdom gives us a reason for starting with the concrete. Wisdom implies a merging of the theoretical and the practical. It, therefore, can only be in the world if there is a wise being. We may not be sure that there is such a being (who would be God in the ideal case), but we have a sense that wisdom is possible and worth struggling for.

God transcends our world and fits into it only by the ultimate miracle (one truly difficult to understand) which, for De Koninck, is the Incarnation. If God comes into our world, as religion demands, there has to be a way for him to come into it, one which though no doubt created by God himself, also is the very origin of God in our world. This is personified in the Virgin Mary. It may, indeed, seem very odd to suppose that there is such a thing as concrete wisdom. De Koninck does not pursue the matter. But let us suppose what seems more likely at first glance. Let us suppose that there is no concrete wisdom.

To say that there is no wisdom is to say that there is no effective combination of concrete truth and right action. But science *itself* is not possible without some such identification. Science works, ideally, by methods which reveal the structure of the concrete through various kinds of manipulation. These manipulations are called controlled experiments. Even where we cannot perform controlled experiments — as in astronomy — we try to tie our theories to parts of physics which can be subjected to such controls. The truth is thus predicated upon a choice of right actions. And this is not just a game with words which plays on the different senses of “right”.

Experiments can be manipulated themselves — scientific reputations can be and have been built on corrupt manipulation. The scientific community collapses unless its members work together on moral terms — unless, that is, they act wisely. They must therefore claim to know what wisdom is, but, were there no such thing in the concrete world, their claims would in the end be hollow.

We are shocked at the notion that scientists might play fast and loose with the evidence, or design experiments which deliberately mislead their colleagues. Yet we are only shocked, on scientific grounds, because we believe that nature is so designed that it is more likely to reveal itself correctly to those who do not deliberately contrive to mislead than to those who do. That is, the faith which makes science feasible in De Koninck’s universe is the same faith which leads him to believe that there is, really, a concrete wisdom. But if such a concrete wisdom existed in an ideal form, it would

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6. The notion of the richness of the concrete world runs through — indeed underlies — much of De Koninck’s work and becomes more important as his ideas develop, but it is never fully expounded. I do not think it can be fully explicated in terms of the Aristotelian notions of matter and form or in Thomistic terms. Because this concrete world is, in De Koninck’s mind, always richer than any abstractions from it, it necessarily has an element of ineffability, for to speak is to make use of abstractions. It can be understood, however, in terms of De Koninck’s account of the created universe and the common good. The richness of the universe is to be explained in terms of its function as the common good to which all must contribute. This, however, is clearly the subject matter of a different paper.

be a perfect whole. It could not be divided into body and soul as if it consisted of two unrelated elements which might exist apart. We do not always act on our knowledge because our minds do not always activate our bodies in the way that we wish. There is a disunity of body and soul. If we were really wise, there would be no such disunity.

So, argues De Koninck, it must have been with the Virgin Mary. But if there was no disunity, how could body and soul have been separated? The faithful, he argues, do not pray to the Virgin Mary as a disembodied spirit, but as a person. Yet a person is a unity of body and soul. Tradition, practice and theory led De Koninck to the position of the bodily assumption. For most people, admittedly, the bodily assumption, however cleverly put, still seems to be a piece of nonsense.

But, within De Koninck's philosophy, it is not nonsense at all. If Mary's body and her soul were a genuine unity, they could not be separated. She would, therefore, not have been in space and time just as you and I are, though she would have seemed to have been to any casual observer. We are dispersed through space-time in a way which makes it possible for us to be fragmented. I am not quite the man I was 20 years ago, and we all know that our mind-body relations are often confused and puzzling.

It would have been otherwise with one who was truly wise. Since our space-time is fragmented and ourselves along with it, there could have come a time when we could no longer make contact with her in the usual ways, though Mary or wisdom might always have been available to the perception of the truly discerning or deserving, as De Koninck and the church say. There need be no scientific discontinuities in this. When she was visible to ordinary mortals all of the time her body would have revealed the properties of ordinary visible things and, of course, when she is not visible, science does not discern her either. In either case, as befits her character, she does not discommode scientists or anyone else.

## II. SCIENCE AND UNIVERSAL CAUSE

This view of the relation between science and religion, however, may well seem to founder on the rock of causality. It is all very well, one may say, to speak of the difference between the concrete world and the world described by the abstractions of science. But we think of our scientific laws as not merely predictive but also explanatory. It is this explanatory power, for instance, which is not quite dealt with by a simple regularity account of causality.

If, however, the "real" causal relations amongst things in the world are actually captured by science, then the very different relations which hold amongst things in the "concrete" world — supposing them to be, after all, such as to accommodate the events which figure in the religious descriptions of the world which De Koninck accepted — would still seem to conflict with our scientific view.

De Koninck proposed to solve this difficulty by recourse to the notion of "universal cause". He lays out his account of it in an essay entitled "The Immaculate Conception

and the Divine Motherhood Assumption and Coredeemption”<sup>7</sup>. Though the words “universal cause” do not occur there, the notion of universal cause is derived from a passage in Book II, Section III of Aristotle’s *Physics*. There are cases where one determining factor is logically prior to another of the same general type: “Health, for example, may be attributed both to the doctor and to [the more general term under which he falls, namely] the expert. An octave is determined both by the ratio of 2:1 and in a more abstract sense by number. This situation is found wherever one of the factors is more inclusive in meaning than the other which is subsumed under it.”<sup>8</sup> Aristotle warns about possible confusions. He reminds us that, in addition to the particular thing or event which is said to be the reason for something, we may sometimes say that the genus of that thing is the reason for it, but sometimes we may call attention to an incidental factor or attribute of the thing. Incidental factors can be confused with causes. Confusion can also result, as Aristotle notices, from using the words “the reason” (or as we might say “the cause”) to denote these aspects singly or collectively. Distinctions of potentiality and actuality are also important. The expression “universal cause” is to be found later in St. Thomas, introduced explicitly in the sixth lecture of his *Commentary on Aristotle’s Physics* when he is distinguishing between universals which are causes in some serious sense and universals which are mere common properties.

De Koninck refers to this development, though he returns to Aristotle himself in the development of his own ideas<sup>9</sup>. His own ideas were something he continued always to wrestle with and his final accounts are to be found in a textbook on the philosophy of nature which remained unfinished at the end of his life<sup>10</sup>. Basically, if I can put the issue in my own way, the notion is this: It is true that the doctor sometimes cures his patients. How? One answer is “by his expertise”. Another is that it is the medicine which cures the patient. The medicine is, in the ordinary sense, the “efficient cause”. But one could ask why it is that the doctor is able to prescribe this medicine. Then one gets the answer “because of his expertise”. About the “expertise”, in its turn, we can ask different questions. How did he get it? Well, his teachers spoke and he listened; other doctors wrote, and he read what they said. His ears and his eyes brought about various appropriate changes in his brain. But the question “Why does the expertise work?” demands a different kind of answer. It works because the world is organized in a certain way: Certain general principles are at work in the world. Similarly, when we say that — to return to Aristotle — “number” is the “cause” of the octave we mean, in part, that the world has certain general properties in virtue of which things are denumerable. This makes certain general principles applicable. It

7. This essay appeared in *The Dogma of the Immaculate Conception*, ed. Edward Dennis O’Connor, Notre Dame, Indiana, Notre Dame University Press, 1958, Chapter X, pp. 363-412.

8. I have used the translation by Philip Wheelwright from *Aristotle*, New York, Odyssey Press, 1935, 1951, p. 28. The phrase in square brackets is, of course, inserted by Wheelwright.

9. See Thomas AQUINAS, *Commentary on Aristotle’s Physics*, tr. Richard J. Blackwell, Richard J. Spath, and W. Edmund Thirlkel, New Haven, Yale University Press, 1963, Section 189, p. 92. For a discussion of the Thomistic notions see Ronald McArthur “Universal in praedicando, Universal in causando”, *Laval Théologique et Philosophique*, 18, 1962, pp. 59-95.

10. The various drafts have been deposited in the archives at Laval University.

is these general principles with which we are concerned. In his unfinished textbook, De Koninck is concerned, as was St. Thomas, to distinguish these "universal causes" from mere universals of predication. Everything in the universe can be organized under an ascending set of general predicates.

The most general, perhaps, is "being", but it is somewhat odd to say that "being is the cause of Elvis Presley". Again, Ottawa is a city; but it is quite wrong to say that "cityhood is the cause of Ottawa". Some universal properties give rise to principles of explanation and some do not. Being a city is something which results from the workings of quite other causes. Population is, in a sense, the cause of being a city. In another sense, if we mean by a city something with the rudiments of civilization, then the conditions which make for a certain sort of civility are the causes of being a city, and some of these will turn out, in all likelihood, to be "universal causes". We might say that being is the cause of Elvis Presley if we have some notion of the principles of being such that they tend, according to some principle, to result in the occurrence of people. We do not usually do so, for we do not know the principles. Even so, we need more distinctions.

There are different kinds of universal causes and it is one special kind which figures most strongly in De Koninck's essay about the Immaculate Conception. To say things like "he was cured by the medical art" is to call attention to the fact that there is involved not just what the doctor did which happened to be followed by a cure (something which happens when quacks cure patients, too), but that there is a rational body of knowledge which is being applied. This too has a history. The doctor learned it, in part, from other doctors and in part, no doubt, developed it for himself. But it is an objective state of affairs, there to be discovered, and it plays a causal role. Its history is the history of medicine. Without it there could be no history of medicine. Sometimes, too, we say things like "this painting exhibits real art" implying some sense in which one might claim, in part at least, that "art is the cause of this painting". "Art" in this sense is something that the painter has grasped and which works through him. We may analyze it in an historical context, showing how it develops from one age to another and from one painter to another. But we never quite analyze it away, for the earliest painting which we discuss nevertheless still must show it in a rudimentary way if we are able to discuss it at all.

What we are talking about, here, is what really should be called the universal efficient cause. Universal efficient causes enter into the world and are transmitted in a way which has a history. There are also, evidently, universal formal causes. In his unfinished textbook, De Koninck tries hard to make clear the distinction between universal causes, in general, and mere predications. He mentions the distinction between efficient causes and formal causes though it is not completely developed. We may make the distinction somewhat easier to understand in the following way: "Goodness", like "redness" is a universal. So is "art" in the sense in which we were using it. Goodness is what all good things have in common. Redness is what all red things have in common. "Art" is what certain skilled acts of doctors have in common or, indeed, in another sense of the word, what all paintings of a certain sort have in common. Redness, however, as De Koninck is at pains to argue, is not really a "universal



cause” because it is merely one of many more or less incidental properties of a thing and what we want to explain is how the thing got to be the way it is. “Art”, on the contrary, is what explains how the properties of what the doctor does, or the properties of the painting, fit together to make them the kinds of things they are, because “art” is a kind of controlling property. It is the doctor’s art or the painter’s art which gives meaning to their actions or to their work. “Art” in all its senses is possible because the world is ordered in a certain way, because it has a certain form. In this sense “art” is a universal formal cause. But the art which is transmitted from one doctor to another or from teacher to pupil in the art school is a part of the particular explanation of how things take on the shapes which they presently exhibit. This is “art” as a universal efficient cause. When we come to “goodness” a further complexity becomes apparent. In a sense it is the controlling property par excellence. All things, Aristotle says, aim at the good; but goodness is not merely a “final cause” but also a universal cause in three different ways. It is a “universal final cause” in the sense that it is the final cause of everything and in the sense that it is the same cause, though it appears in many different things in demonstrably different ways.

If, as has usually been thought in the philosophical tradition which occupies us here, evil is always a negation, a lack of something, then goodness is the ultimate universal formal cause as well: It is in virtue of having some positive property (i.e., some goodness) that things can be at all. Again it is universal in that it is ubiquitous and universal in that it appears in different things. But goodness is also a universal efficient cause. A man’s knowledge of the good, whether extensive or minimal, animates him to do what he does, for in general people do not act except for what they take to be the best. Even the bank robber thinks it better (in some sense of better) that the money be in his pocket than in that of the banker. Nothing is just good. Each thing always has some other properties through which goodness, we may say, is “expressed”. “Goodness” cannot be created or destroyed, though good things can be. I may take credit for a good act, but not, literally, for the goodness which is in the act. Sometimes I may say that I have “grasped” the goodness (as the artist grasps the art). Sometimes my acts express a goodness which I do not grasp at all. We may picture this transmission of goodness, its communication as a universal to a series of particulars, in somewhat the way that we picture the history of art.

As we trace art on through its history, we find more and more of its intrinsic nature being expressed as the various possibilities unfold, even though, of course, later art is not necessarily better than earlier art. But “art” is never absent. From its first discernment, it must always be present in the examples through which we create our history. For, though a universal, art must be expressed through particulars. If there is a break, as there would be if a civilization broke down leaving no trace of itself, “art” would have to be communicated again to a first individual and the story would begin anew.

Christianity has it that, in the case of the human race, there was a break in the transmission of goodness with “the fall”, and men and women stumbled about unable to save themselves. The damage had to be repaired, if at all, by a fresh act of divine grace. Such an act would be literally a new appearance of the divine goodness itself

in the world. This new appearance was the Incarnation. According to De Koninck, this is an even more radical event than his philosophical and theological opponents would suppose. For in it God shows, he says, his ultimate humility. He comes as a man.

To come as a man (in the full and ordinary sense which orthodoxy ascribes to the Incarnation) he must have a mother and, if so, his mother must also be without sin, the first such person since the fall and, therefore the "new Eve". Otherwise the goodness cannot be communicated whole. But this permits her — indeed makes it necessary for her — to be in a wholly distinct position. The persons of the trinity are, by nature, goodness itself. She is, rather, a first and crucial link in the chain through which goodness comes to us. But it also shows God's sound judgement, indeed, his wisdom: For it is St. Thomas's view, and De Koninck's as well, that it is better, in a sense, to be the cause of causes than simply to be the cause.

Thus St. Thomas says in the *Summa Theologica* first that God is to be understood as the "universal cause" and then specifically that the "divine wisdom" is the cause of the distinctness in things. Individual entities cannot be their own universal causes. In *Summa Contra Gentiles*, he argues that if God caused all the actions directly, then God's wisdom in creating things at all would be called into question, for creation would be useless. On the contrary, of course, he believed that creation is the manner in which the divine attributes come to be distributed in the world. One of St. Thomas's problems is to reconcile the view that God is responsible for everything in a world which he creates ex nihilo with the view that creatures actually act in the world. The notion of universal cause is a key to this conundrum in that God acts through all things as their universal cause without, thereby, becoming literally identified with them — an identification which would divide his nature<sup>11</sup>.

Obviously these propositions are linked to the questions about God and evil. It is because of his ultimate humility that God permits evil. He comes in all his weakness as a man. But this humility, in its turn, is linked to the problem of universal cause: How is goodness to be communicated to us except through this unbroken chain and how can the chain reach us unless God becomes man?

### III. WHAT HAS WISDOM TO DO WITH SCIENCE?

One may certainly ask just how wisdom in the sense De Koninck demands is connected to science. One may argue, indeed, that wisdom really has to do with practical reason and therefore has no obvious links to science, which depends upon theoretical reason<sup>12</sup>.

11. *Summa Theologica*, Part I, Question 45, Article 1; Question 47, Article 1. (See also Questions 48 and 49). *Summa Contra Gentiles*, Part I, Bk. III, Ch. 69.

12. I am indebted to Professor Louis Brunet for posing this issue and also for his careful discussion of my paper at the May, 1989 meetings of the Canadian Philosophical Association which raised questions about the independence of faith and about the precise association of wisdom and science. My discussion of these issues reflects his concerns.

But consider: Science, I suggested, involves practical activities which must be governed by honesty and by the search for truth — that is to say that science depends on the supposition that honest enquiry is more likely to reveal the truth than other kinds of activity. We do not know by pragmatic means that this is really so, for all our scientific propositions are fallible, and all the ones we think we now have may well ultimately be proved false. Indeed, if science proceeds by abstraction as De Koninck thought, it will mislead us by taking things out of context unless we have some notion of what the concrete world from which the abstraction takes place is like. This is the message of *The Hollow Universe*<sup>13</sup>. But it is religion, more than anything else, which gives us, as abstracting animals, at least a glimpse of what the concrete world might really be like. Thus we need to have faith in the nature of the concrete world in order to justify our continuance in it.

Not all human activities are of this kind. Advertising, for example, may succeed by destroying the rationality of its audience. Recently, Paula Drillman, the executive vice-president of McCann Erickson, one of the largest advertising agencies in north America, was quoted as saying that advertisers are giving up emphasis on the “rational benefits” of their products and are instead trying to create emotional attachments because rational benefits can be emulated too easily by one’s opponents<sup>14</sup>. What is special about science, then, from the point of view of its need for wisdom is that it proceeds by abstraction and therefore needs a complement, and that it is directed to the truth. When Msgr. L.A. Pâquet spoke of “Le culte de la vérité”<sup>15</sup>, he was speaking of something very important. Science fails, therefore, unless integrated into a larger reality. Partly, this larger reality is discovered through the philosophy of nature and through natural theology; but the nature of the concrete world is given to us in De Koninck’s view, only with the help of religious revelation. Hence, I think, in *his* view, we had best not keep them separate.

This may make the puzzles about the role of the Virgin Mary in Christian theology more intelligible, but does it help us when we return to science? It does not if, as the drift of thought from the sixteenth century through to the end of the nineteenth century seems to suggest, scientific theses tend to dispose of everything except particular efficient causes. But some of this appearance may vanish on closer analysis.

An older science tried to explain why things move at all. Part of Newton’s innovation was to assume fixed laws of motion and to explain the deviation. These laws are, if you like, ideal forms, and function, indeed, as the universal formal causes of events. The principle of the conservation of energy which came to be a bedrock of physical mechanics, by contrast, is the notion of a universal efficient cause, for no particular description, whether of particles in motion or of forces and fields, accounts for it. The strength of Hume’s critique of scientific causality depended on an attack on particular efficient causes. Hume was undeniably right to suggest that nothing in the descriptions of such causes made it in the least likely that what had happened in the

13. London, Oxford University Press, 1960; Québec, Presses de l’Université Laval, 1964.

14. New York, May 8, 1989, p. 36.

15. *Le Culte de la vérité*, Montréal, Secrétariat général de l’A.C.J.C., 1927.

past would continue to happen in the future. The missing notions — not attacked by Hume because they had largely disappeared from view (if, indeed, anyone had ever had them quite straight) — were those of universal formal and universal efficient cause.

Certainly the principles embodied in the Newtonian laws of motion are universal formal causes. But Newton himself appended to his *Principia* an argument for the existence of God.

Two rival interpretations of it developed. One was deistic according to which God simply made the world as a single machine and then abandoned it to its work. The other was a theistic one according to which God interfered continuously. Newton favoured the latter, partly because he wondered why gravity did not cause the world to collapse into itself and partly because he was concerned with the perturbations in planetary motions; but one of his concerns was with the conservation of energy.

Thus, in his book on eighteenth century versions of the design argument, Professor Hurlbutt summarizes the response to Query 39 of the *Optics* this way: "Newton begins with the belief that the amount and variety of motion in the universe is always decreasing, and he feels that this implies a need for its conservation and recruitment by active principles"<sup>16</sup>. Neither the literal description of the material bodies, nor the description of the laws of motion guarantees this result. Some activity is required, but it is not the sort of activity which moves any particular body from here to there. Even when we think, as we now do, of the laws of thermodynamics as requiring that kinetic energy is transformed into thermal energy in exact proportion, the problem remains. Why shouldn't some of the energy simply be lost? We could still, like Newton, think of this balancing act as an activity, but, if so, it is the activity of a universal principle. It is, again, a universal activity, not simply the passive ordering of all-pervasive form. Its connection with God is, of course, another matter.

Perhaps, however, the case I want to make would be clearer if I referred to what I think was a still more important concern for Newton. Newton was strongly influenced by Henry More, the Cambridge Platonist<sup>17</sup>. It was from More that he came to think of space as the sensorium of God, for instance. The questions of perturbation and gravitational collapse have disappeared, but the question of the structure of the sensorium of God is the question of how nature is organized so as to be intelligible. This is the question which arises when one considers universal efficient cause. In this sense,

16. Robert H. HURLBUTT III, *Hume, Newton, and the Design Argument*, Lincoln, University of Nebraska Press, 1965, p. 11.

17. NEWTON appended his demonstration of the existence of God to the second edition of his *Principia* as a "general scholium" in 1713. He first explored it in letters to Sir Richard Bentley in 1692 and 1693. (See Newton, *Opera Quae Extant Omnia*, London, 1782, pp. 429-442). He also laid it out in his *Optics* of 1706. Throughout, he maintains that the pattern and the order of nature are unintelligible without reference to God, i.e., that the form of the laws themselves and the orderly actualization of things governed by them both require God. The first of these might be thought of as universal formal cause, the second as universal efficient cause, though, indeed, Newton does not use these words. For an extended discussion of the issues, see Robert H. Hurlbutt III, *op. cit.* (see note 16). Hurlbutt is particularly good on the Platonic or Neoplatonic elements. Dudley Shapere notes the most salient features clearly in his article on Newton in the *Encyclopedia of Philosophy*, New York, Macmillan, 1967, Vol. 5, pp. 490-491.

intelligibility and, indeed, intelligence itself (the working of the Aristotelian agent intellect), like art, can be a universal efficient cause. The question is alive again in physics because physicists like John Barrow of the University of Sussex have raised it in connection with the use of the anthropic principle<sup>18</sup>. Unless one is prepared to take the view that science is justified only pragmatically by its ability to predict, or simply on the basis of a Humean natural belief or a Kantian account of the synthetic *a priori* in human experience, one must accept that, not only have universal formal and efficient causes played a role in science, they must necessarily do so.

Pragmatic acceptance of predictability is a circular notion in the sense that it would be reasonable if and only if we already had some ground for thinking that the future would resemble the past. Humean natural beliefs founder on just the question we are concerned with here. Why do some of our beliefs seem more natural and reasonable than others? Neither Hume nor the partisans of science and religion quite believes that all beliefs are equal. The Kantian proposal somehow forces a distinction between what may exist in a noumenal world and what seems to be the natural pattern of our minds. But the more that we know about the unity of knowledge, the less plausible all such separations may be.

By contrast, the strength of De Koninck's claim is that it shows how certain elements of science and certain elements of religion come together to make sense in a single unified pattern. Pragmatists can unify science and religion at the price of denying objectivity. Humeans and Kantians must keep them separate.

#### IV. THE CLAIMS OF FAITH AND DE KONINCK'S CHRISTIANITY

One may certainly raise questions about just how the relation of religion to science is to be construed in De Koninck's philosophy. The central question which critics usually pose about De Koninck is simply about whether his position can be made intelligible and I have been trying to show clearly that it can be made intelligible and even acceptable to at least some of those who are committed to a scientific view of the world. But one can also raise questions from the perspective of faith and ask about faith's claims to independence as well as important raising questions about the details of certain concepts or principles which, I suggested, played a part within science as well as within natural theology, the philosophy of nature, metaphysics, and religion.

De Koninck surely accepted the claims of faith. Christianity seemed to him to be the true religion. He believed that he accepted not only all the things required of a Catholic, but also that he accepted the things which Catholics usually accept even if they are not, in the strictest sense, formally required to do so.

He did not think that reason could demonstrate all these truths. By and large, the list of the doctrines he supposed to be known to the faith but not demonstrable by reason corresponded to St. Thomas's list. The doctrine which formed my central example — because it was so often De Koninck's own example — was the doctrine

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18. See John D. BARROW and Frank J. TIPLER, *The Anthropic Principle*, Oxford, the Clarendon Press, 1986.

of the bodily assumption of the Virgin Mary. De Koninck believed that this had always been a Catholic belief, though it was not an official dogma until 1950. Not only would he have said that it could not be demonstrated by reason, he would have added that, but for the traditions and teachings of the Church, it is unlikely that anyone would ever have heard of, much less discussed, the special status of the mother of Jesus.

Faith thus works to *present* doctrines. De Koninck believed that they must somehow be made intelligible. They are presented to the human understanding; they are truths to be reasoned about. They must be understood in some way which is at least not incompatible with the demands of reason.

There has been, certainly, debate about what this means. A minimalist interpretation, perhaps, would have it simply that dogmas must not contain formal contradictions. But there was a long rather particular scholastic tradition in Québec which De Koninck followed and which demanded more than this. It seems to me he adopted and made this tradition very much his own in a way which explains his influence within the Church in Québec. Indeed, he developed this tradition to what may well prove to be its final clarity.

The rationalism which this tradition involved was Thomistic rationalism, though as Professor Watzlawik has shown<sup>19</sup>, Thomism in Québec, which dated from the 1840s and thus preceded the main body of the Thomistic revival, had some features of its own. Whether some of this was influenced by the mixture of Cartesianism and Augustinianism which was implanted in the Collège Jésuite in the seventeenth century and continued through to nineteenth century thinkers like Jacques Odelin, or whether it was founded wholly on a reading of St. Thomas, is a question which cannot be settled here.

But the essence of what I think was the standard position in Québec on the question of faith and reason was laid down by Msgr. Louis-Adolphe Pâquet in 1890 in a book entitled *La Foi et la raison en elles-mêmes et dans leurs rapports*<sup>20</sup>. In it he argues specifically that it is the function of reason to establish the credibility of the faith<sup>21</sup>, and to make the faith intelligible and provide the basis for its interpretation<sup>22</sup>. Pâquet went so far as to defend the geological theory of the history of the earth against the book of *Genesis*<sup>23</sup>, implying a clear basis for the theory of evolution, a basis later developed by De Koninck, for whom the notion of universal cause about which I spoke today provided a key to the problems which evolutionary theory set for a Christian philosopher. Pâquet reminds us that St. Thomas<sup>24</sup> says that not all passages in Scripture are of the same character or of the same importance. How are we to determine which are which? Surely only reason can do this.

19. Joseph WATZLAWIK, *Leo XIII and the New Scholasticism*, Cebu City, University of San Carlos Press, 1966, pp. 39-71.

20. Québec, Demers, 1890.

21. *op. cit.*, pp. 55-59.

22. *op. cit.*, pp. 112-116.

23. *op. cit.*, pp. 82-90, especially 87-89.

24. *Summa Theologica*, second part of Part II, question 1, article 6, reply to objection 1.

The view that I have been suggesting as the natural outcome of what De Koninck says, does not go further than this, and it does, in a sense, give a certain priority to faith. The concept of wisdom which is central to his concern about the Virgin Mary is one which is necessary for religion and for science alike. In its fullest and most developed form, it is only available to the religious man. The man of science with no religion is not thereby precluded from doing science but he is committed to the existence of a kind of wisdom which cannot, I think, be made fully intelligible within science alone. Thus religion and science complement one another. The essential link between them was emphasized again by Pâquet in *Le Culte de la vérité*<sup>25</sup>, published 37 years after *La Foi et la raison*.

De Koninck in his turn had still more than this in mind. I think the invocation of Philo is deliberate, even if Philo is not mentioned by name, and it illustrates the nature of De Koninck's ecumenical concerns. He believed that one would find the common ground by pressing one's own doctrines to their logical limits not by retreating from them. Thus his thesis about the Virgin Mary reveals common ground with a Jewish tradition which he held, in any case, in high esteem. The suggestion is that there is a deep structure which reason can reach and which is the basis for religion and science, alike, and is also the basis for an understanding of the likenesses and differences of religions.

It is true that De Koninck supposed that certain crucial truths of Christianity were available only by revelation, but the religions which preceded Christianity and those which are contemporaneous with it may nonetheless exhibit important truths which stem from the common ground available to reason.

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25. Montréal, Secrétariat général de l'A.C.J.C., 1927.