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On Christian Learning

Nicholas Wolterstorff

One of the most insistent and provocative claims of the neo-Calvinist movement in our century and at the end of the last is that scholarship as a whole is not religiously neutral. Of course, what the members of the movement had in mind was *non-theological* scholarship; no one would claim that *theology* is religiously neutral. And it was *competent* scholarship on which they had their eye. Their point was that there is scholarship *satisfying all the criteria for competence* which is not religiously neutral. They meant, furthermore, that this situation is no accident. Until all God's children are religiously united in his Kingdom of Peace, there is no possibility of unified science. Pluralism in the academy, running along the fault-lines of religious divergence, cannot be eliminated.

The Leibnizian Ideal

This view provoked controversy because it stood in opposition to the view of science held almost universally in the West for some six centuries. As a prominent American philosopher of science, Larry Laudan, puts it,

For a very long time, philosophers generally have been inclined to accept what I shall call the Leibnizian ideal. In brief, the Leibnizian ideal holds that all disputes about matters of fact (including disputes over theories) can be impartially resolved by invoking appropriate rules of evidence. At least since Bacon, most philosophers have

believed there to be an algorithm or set of algorithms which would permit any impartial observer to judge the degree to which a certain body of data rendered different explanations of those data true or false, probable or improbable. Philosophers have expressed varying degrees of optimism about whether we now know precisely what those evidential rules are.¹

Of course, there is complexity concealed behind that bland phrase, “any impartial observer.” Most scholars have acknowledged that we each bring to our practice of science various psychological quirks that make it impossible for us to be fully impartial. Nevertheless, since science is a communal enterprise, it has been stressed, these private quirks will be corrected by the discourse of the community. How exactly this happens was usually not spelled out in detail. But in any case, the thought was that *enduring* disagreement on any theoretical issue must be due to the fact that the appropriate rules of evidence—the appropriate rules of method—had not yet been discovered or put into effect. Moreover, no one supposed that divergent religious commitments might make it impossible to agree on appropriate rules of method. On this matter, too, within the scientific community, impartial judgment was an attainable ideal.

Though Laudan calls this “the Leibnizian ideal” I think Descartes provides us with the most instructive example. Trained in one of the finest schools of France, Descartes tells us he was eventually disappointed and disillusioned with the instruction he received there. The root of his disappointment was that his teachers disagreed with each other on matters of science. And since these were some of the finest teachers available, he concluded that something must be rotten in the very sciences themselves. A true science wrests consensus from the welter of human diversity. So the question Descartes posed to himself was this: What accounts for the lack of consensus? Or, phrased the other way round: How is consensus to be achieved? His answer was both typical of our modern mentality and fateful: The absence of consensus is to be traced to the fact that the right method was not yet being used.

There was one discipline, however, that Descartes exempted from his critique—one discipline that, as luck would have it, was a consensus science. That science was mathematics. And so Descartes proposed to analyze the method employed by the mathematician and apply that method across the board. Eventually, he came to concede that the deductive method (the method he supposed the mathematician to

employ) did not suffice for the natural sciences; it had to be supplemented by the hypothetico-deductive method. As a consequence, Descartes found himself constrained to surrender his ideal of grounding all the sciences in certitude; he found he had no choice but to give up his idea of infallibilism. Nevertheless, he never gave up his conviction that, apart from psychological quirks, the root of disagreement in science is the lack of appropriate rules of method. If the appropriate rules are found and applied, consensus will emerge; furthermore, once they are found, any rational person will agree that they are indeed the right ones.

It was this vision of science—call it either Leibnizian or Cartesian—that the neo-Calvinists repudiated. There is no hope, they said, of consensus in science. Science is ineluctably pluralistic. The ideal of rational consensus on methods whose application would yield rational consensus throughout the disciplines is unattainable. And the reason for the unattainability of that ideal is the permanence of religious divergence. There is Christian learning and there is non-Christian learning; only religious conversion will change that.

It must be conceded that the neo-Calvinists were not wholly without antecedents on this point. Augustine had already insisted that love of God is a condition of knowledge. *Credo ut intelligam*, he had said: “I believe in order that I may know.” Faith is the condition of knowledge, and knowledge is the *telos* of faith. But the knowledge Augustine had in mind was knowledge of God—or, more generally, knowledge of the eternal. We cannot know God, he said, until we love him in faith. Hostility to God makes knowledge of him impossible. Augustine never extended this suggestive claim concerning the entwining of love and knowledge, of hostility and ignorance, to the disciplines in general.

Abraham Kuyper: *Two Humanities, Two Sciences*

The acknowledged leader of the first generation of the neo-Calvinist movement in Holland was Abraham Kuyper. Let’s see how he articulated the point that religious pluralism makes consensus in *scientia* unattainable—that it makes dissensus not only normal but inevitable. What we want to look at is Kuyper’s famous (or infamous) chapter on “The Twofold Development of Science” in his *Principles of Sacred Theology*.²

Kuyper launches his argument not from an analysis of the sciences but from theological considerations. Among all the differences in conviction and commitment among human beings, there is one that does

not have its root in psychological dynamics—one that “does not find its origin within the circle of our human consciousness, but *outside* of it.”(152) Or so the Christian religion claims:

For it speaks of a regeneration (*palingenesia*), of a ‘being begotten anew’ (*anagenesis*), followed by an enlightening (*photismos*), which changes man in his very being; and that indeed by a change or transformation which is effected by a supernatural cause.... This ‘regeneration’ breaks humanity in two, and repeals the unity of the human consciousness. If this fact of ‘being begotten anew,’ coming in from without, establishes a radical change in *the being* of man, be it only potentially, and if this change exercises at the same time an influence upon his *consciousness*, then as far as it has or has not undergone this transformation, there is an abyss in the universal human consciousness across which no bridge can be laid.(152)

Concerning those differences among us which have their root in psychological dynamics, we can hold out the hope of emergent consensus through communal interaction.(150-151) But concerning this difference, whose cause lies outside ourselves, whose cause is God, there is no hope of consensus or even convergence.

The fact that there are two kinds of people results inevitably in two kinds of science, says Kuyper. Of course, both kinds of people are human,

...but one is inwardly different from the other, and consequently feels a different content rising from his consciousness; thus they face the cosmos from different points of view, and are impelled by different impulses. And the fact that there are two kinds of *people* occasions of necessity the fact of two kinds of human *life* and *-consciousness* of life, and of two kinds of *science*....” (154)

Or, put conversely: “The idea of the *unity of science*, taken in its absolute sense, implies the denial of the fact of *palingenesia*, and therefore from principles leads to the rejection of the Christian religion.” (154) Nothing could make Kuyper’s basic line of thought clearer than do those last words. His understanding of the relation of religion and science is not derived from a slow, careful, cautious, detailed “scientific”, analysis of the history of the disciplines; it is derived by straightforward inference from the claims of the Christian gospel, as he understood them.

Common Ground

Having said that there must be two kinds of science, given the difference between Christian and non-Christian, Kuyper goes on at once to make clear that he is not to be taken as holding that there is no commonality between these two kinds of people in their practice of science. Kuyper's approach is to insist on the importance of acknowledging the contribution of the subject to the practice of science. The theorist is not a blotter soaking up the facts of the world but a dynamic, structured self; the dynamics and structure of the self unavoidably come to expression in the scientific results at which he arrives. What the subject brings to the practice of science includes, as we have said, whether he or she is regenerated or not. But regeneration, though radically comprehensive in scope, does not touch everything in the human self, in Kuyper's view. For example, it "works no change in the senses." (157) "The entire empiric investigation of the things that are perceptible to our senses ... had nothing to do with the radical difference which separates the two groups." Accordingly, "Any one who in the realm of visible things has observed and formulated something with entire accuracy, whatever it be, has rendered service to *both* groups." (157)

It's true that sensory observations constitute only the bottom rung of the empirical sciences. Nonetheless, "it should be gratefully acknowledged that in the elementary parts of these studies there is a *common* realm, in which the difference between view and starting-point does not enforce itself." (158) We say without reluctance "but with gladness, that in almost every department there is some task that is common to all...." (161) Of course, Kuyper recognized that the workings of our senses are influenced by what I earlier called psychological quirks; he devotes an extraordinarily perceptive section to developing the point. But he shared the general conviction that the influence of these subjective quirks would be corrected by the discourse of the community of scholars.

Another element in the human subject unaffected by regeneration is what Kuyper calls "the formal process of thought" (159)—in other words, our apprehension of entailments. Here, too, "a certain mutual contact between the two kinds of science" (160) is possible. For example, "the accuracy of one another's demonstrations can be critically examined and verified, in so far at least as the result strictly depends upon the deduction made." (160)

Two Distinct Sciences

These two things, then, remain untouched by regeneration: the workings of the senses and the workings of our capacity for apprehending entailment. These are the extent, however, of what remains untouched. And because the workings of these two capacities falls far short, in Kuyper's view, of what is necessary for the construction of the sciences, he concludes that there are two distinct sciences in every discipline. Admittedly, the difference is not dramatic in mathematics and natural science; but even there, he seems to have thought, it is not negligible.

This would not be true if the deepest foundations of our knowledge lay outside of us and not in us, or if the palingenesis operated outside of these principles of knowledge in the subject. Since, however, this is not the case, because, like sin, whose result it potentially destroys, palingenesis causes the subject to be different in his innermost self from what he was before; and because this disposition of the subject exercises an immediate influence upon scientific investigation and on scientific conviction; these two unlike magnitudes can have no like result and from this difference between the two circles of subjects there follows of necessity difference between their science.

This bifurcation must extend as far as the influence of those subjective factors which palingenesis causes to be different in one than in the other. Hence all scientific research which has things *seen* only as object, or which is prosecuted simply by those subjective factors which have undergone *no* change, remains the same for both. Near the ground, the tree of science is one for all. But no sooner has it reached a certain height, than two branches separate.... (168)

As partisans of the different branches, "we encounter one another in open conflict, and a universally compulsory science, that shall be compulsory upon all men, is inconceivable." (182)

What this view implies, Kuyper maintained, is that from that point where the sciences begin to use more than our capacities of sense and "reason", and hence to separate, there is no hope of any rational adjudication of disagreements. From that point on, "it will be impossible to settle the difference of insight. No polemics between these two kinds of science, on details [which do not involve simply the workings of those two unaffected faculties of sense and 'reason'], can ever serve

any purpose.” (160) All each party can do is explain to the other why, at the point of branching, it follows the branch it does.

The importance of offering such explanations must not be underrated. (160-161) Yet these must be seen clearly for what they are: “the confession of the reason why one refuses to follow the tendency of the other....” (160) As each party offers to the other its account of why it proceeds as it does, it will find itself saying things with which the other party disagrees; it will also discover that it is unable, at these points of disagreement, to argue for its beliefs in such a way that it succeeds in persuading the other party, or even in making the other party no longer epistemically justified in withholding its assent. But this stand-off in persuasion and rationality does not mean, for Kuyper, that Christians are rationally obliged to surrender their convictions—nor that *non*-Christians are rationally obliged to surrender theirs. Both parties are justified in believing as they do. What Kuyper sees when surveying science is a pluralism of contrary, but nevertheless rationally held, positions. Obviously, there is an understanding of rationality at work here quite different from that of classic foundationalism.

In saying there are two kinds of science, non-Christian and Christian, Kuyper must employ a formal criterion for calling some body of inquiry a *science*. As a whole, of course, he thinks non-Christian science is not true—and he is fully aware that the non-Christian theorist will return the favor. Thus, if a condition of calling something “science” is that one regards it as *true*, then each party will hold that there is only *one* science: namely, its own. What Kuyper means by science can be seen from the following description:

... both parts of humanity ... feel the impulse to investigate the object, and, by doing this in a scientific way, to obtain a scientific systemization of that which exists. The effort and activity of both bear the same character; they are both impelled by the same purpose; both devote their strength to the same kind of labor; and this kind of labor is in each case called the prosecution of science. But however much they may be doing the same thing formally, their activities run in different directions, because they have different starting points.... [F]ormally both groups perform scientific labor, and ... they recognize each other’s scientific character, in the same way in which two armies facing each other are mutually able to appreciate military worth. But when they have arrived at their result they cannot conceal the fact that in many respects these results are contrary to each other, and are entirely different; and as far as this is the case,

each group naturally contradicts whatever the other group asserts. (155-6)

The Weakness of Kuyper's Analysis

So far I have resolutely avoided mentioning the point in Kuyper's theory we are most eager to have illumined. There are many points, of course, that we might like to question. Is science really so nicely structured into a lower level of sensory reports, on which there is consensus, and an upper level, on which there is none? Is it true that the distorting effects of our subjective quirks of sense and "reason" are always winnowed out by the discourse of the community? But these questions and others, though important, are not central. What we most want from Kuyper is clarity on how the religious divergence to which he persistently calls our attention works itself out in science, such that, as he sees it, "scientific investigation can be *brought to a close* in no single department by all scientists together, yea, cannot be *continued* in concert, as soon as palingenesis makes a division between the investigators...." (161)

Unfortunately, it is right here—at the very core, not somewhere out in the periphery of details—that Kuyper's theory is most unsatisfactory. In dividing up humanity as he does, Kuyper is of course standing in the tradition of Augustine, who saw history as the struggle between the *civitas dei* and the *civitas mundi*. Given his theological conviction on the significance of rebirth, and given his conviction on the centrality of the role of the subject in science, Kuyper thought the struggle between the *civitas dei* and *civitas mundi* must find expression in a struggle between Christian learning and non-Christian learning. But when it comes to showing exactly how the connection works, Kuyper abandons us. He says such things as:

"...their activities run in opposite directions, because they have different starting points." (155)

"...because of the difference in their nature they apply themselves differently to this work, and view things in a different way." (155)

"...because they themselves are differently constituted, they see a corresponding difference in the constitution of all things." (155)

"...there are two points of departure." (167)

"...palingenesis causes the subject to be different in his inner-most self from what he was before; and...this disposition of the subject

exercises an immediate influence upon scientific investigation and our scientific conviction.” (168)

“[Christian learning is] that which the student of ‘the I wisdom of God’ derives from his premises.” (176)

“[The effort to develop a science] is ever bound to the premises in our nature from which this effort starts out.” (180)

“[Christian learning is] governed by the fact of palingenesis.” (181)

“...the fact of palingenesis governs the *whole* subject in *all* investigations.” (181)

What Kuyper gives us here is a variety of metaphors: Christians have different *starting points*, *different points of departure*, different *premises* (in another passage, he says different *presuppositions*). Christians *view* things differently. The fact of rebirth *governs* the investigations of Christians; it *influences* them. But what do these metaphors really tell us? This brandishing of metaphors does not illumine the way religion influences scholarship or support the contention that this influence must result in two kinds of science.

The weakness of Kuyper’s analysis at this point (more accurately, the non-existence of any analysis) did not go unnoticed by his followers in the neo-Calvinist movement. But what is striking to us, who survey these developments from a distance of fifty to a hundred years later, is the number of people who responded to their awareness of this central lacuna in Kuyper *not* by questioning the thesis itself of “two kinds of people hence two kinds of science” but rather by working industriously to show where the differences were and how exactly they came about. Especially in the so-called “Reformational” movement, many were convinced that the thesis must be true and that all that was required was to point out the differences convincingly and to offer a general account of how they came about.

Kuyper’s followers acknowledged (as did Kuyper himself) that for various reasons the two kinds of people might not be faithful to their “starting points” and that as a result the differences between the sciences *actually* produced by Christians and non-Christians may not be great. Unlike Kuyper, however, his followers were usually inclined to lay the principal blame for this upon Christians; they were inclined to impute a single-mindedness to non-Christian scholars in their labors which they did not impute to Christians. Hence, their analysis of the actual differences was regularly mingled with exhortations to their fel-

low Christians to be more single-mindedly devoted in purging the elements of “apostate” thinking from their minds. The suggestion was repeatedly made that if such devotion were forthcoming, the difference between the two kinds of science would be evident to all in every discipline.

Religious Totalism

One might ask why it was that so many were convinced, in *a priori* fashion, that the thesis, “two kinds of people, hence two kinds of science” must be true. Evidently, we are touching here upon elements deep in the overall neo-Calvinist vision. We have seen how Kuyper himself justified the thesis; but I do not think Kuyper was as explicit in those passages as he might have been concerning the deep motivation. I suggest that the answer is something along the following line. Characteristic of the Calvinist tradition in general has been an impulse toward religious totalism—toward the conviction that one’s whole life must be lived in obedience to God-in-Christ, that faith must penetrate all. This, of course, is exactly the element in the Calvinist character of which Max Weber caught sight and which he called “this-worldly asceticism.” Anyone who says, “Lo, here faith makes a difference but not there” can expect from the Calvinist an intuitive aversion. Upon reflection, the Calvinist may concede the point in certain cases; recall that Kuyper himself said faith makes no difference to the working of our senses and “reason.” But the intuitive response of the Calvinist will be to resist every claim of “here but not there.”

The gospel says we are to obey all the commands of God; there is a deep impulse in the Calvinist to understand this as meaning all of life is to consist of obeying the commands of God. The gospel says we are to serve nothing but God—or perhaps, nothing which in any way conflicts with our service to God. There is a deep impulse in the Calvinist to understand this as meaning that all of life is to consist of service to God. I think it is accurate to say that in the neo-Calvinist movement, and especially in its “Reformational” branch, this impulse toward religious totalism, indigenous to the Calvinist tradition generally, was as powerful as it has ever been.

Beneath this impulse in neo-Calvinism, and again most decisively in its “Reformational” branch, has been the tendency, when reflecting on whether we have an indigenous human nature that is a well-spring of thought and action, either to deny any such nature or to see it as very narrow and constricted. Repeatedly the pejorative charge of dualism

has been fired by “Reformational” thinkers at any position that divides the human self into those capacities and dynamics that belong to our indigenous human nature and those which are rooted in faith. Kuyper himself has been accused by some of his followers of having fallen into dualism—or perhaps more accurately, of having marched boldly into it.

The impulse toward construing the life of the authentic Christian as rooted entirely in faith and not at all in human nature will have, as its counterpart, the impulse toward construing the life of the non-Christian as rooted entirely in idolatry and not at all in human nature. The life of the non-Christian is seen as penetrated through and through by idolatry, in a way formally similar to the way the life of the authentic Christian is seen as penetrated through and through by faith. All of life, it is said, is religion—that is, all of everybody’s life is religion. So there *must be* two kinds of science, on pain of dualism. And if that appears not to be the case, then the reality is concealed from us by a lack of perceptiveness on the part of those who survey the sciences, along with a lack of single-minded devotion on the part of those Christians who practice science.

I suggest it has been for reasons like these that various followers of Kuyper have accepted his thesis, “two kinds of people, hence two kinds of science.” A fair number, however, have gone beyond this *a priori* conviction and sought to display the differences between the two sciences and to give a general account of how those differences actually come about. As I see it, these attempts have mainly gone in one or the other of two directions.

Worldview: Link Between Religion and Science?

Some have argued that the link between religion and scientific inquiry lies in *worldviews*—what my former teacher, William Harry Jellessa, called *minds*. Every human being has a worldview or mind, so it is said, and to be a Christian is to adhere to a certain worldview. The worldview with which a scholar engages a discipline shapes his practice of it.³

My own judgment is that this line of thought, at least as developed so far, constitutes little if any advance on Kuyper. It merely assumes the existence of liabilities which shape the practice and results of science. But this assumption is obviously only marginally different from the problem we hoped Kuyper would illuminate in the first place. In addition, the person who adopts this approach assumes the obligation

of explaining and refining the concept of a *worldview*, and that has proved to be no easy task.

To be a human being is to be a creature of knowledge and belief—a creature of assent. It is to take reality a certain way; it is to “represent” reality a certain way. To be human is also, of course, to be a creature with aims, desires, values, and wants. These two dimensions of the human self—call them the *assentive* and the *affective*—are profoundly connected. We are deeply attached to some of our beliefs; some of our beliefs are even formed (in part) by our attachments. And all of us, in acting intentionally, act *on* beliefs and *out of* motives.

Now, the worldview theorist proposes to select, from a person’s entire corpus of assent, those of his beliefs which constitute his *worldview*. Then he asks such questions as whether this person has the same worldview as that person, whether this person has changed his worldview, and so forth. All this, to repeat, has proved to be no easy task. Of course, there is no problem in placing a person’s beliefs on various continua: some beliefs are more general, others more specific; some are more firmly held, others less firmly; some are more central, others more peripheral. There is likewise no problem in comparing the beliefs of different persons. I myself doubt, however, that any benefit is to be gained from refining the vague notion of worldview so that we can pick out that cluster of a person’s beliefs that constitutes his worldview, or so that we can answer all these questions about similarities and differences between worldviews.

Herman Dooyeweerd’s explication and use of the concept of *ground-motive* is best placed within the context of the worldview approach. A particular ground-motive is the fundamental dimension of how those who share the worldview see reality, and a basic determinant of their action— it is both motif and motive.⁴

Faith and Idolatry

The second attempt to display the differences between the two kinds of science, and to give an account of how those differences come about, takes the concepts of *faith* and *idolatry* central to be central instead of worldview. This line of thought begins with the anthropological claim that an ineradicable feature of human beings is the irresistible impulse to bring unity to life by taking something as absolute, by giving ultimate allegiance to something or other—be it the transcendent God or something immanent in the created order. If the former, this impulse is faith; if the latter, idolatry. The argument goes on to claim

that idolatry manifests itself in the academic disciplines in (futile) reductionist attempts to treat some dimension of created reality as the clue to the whole. The argument concludes by claiming that only if one takes the transcendent God as absolute is such reductionism avoidable.

Unlike the worldview approach, this approach has the virtue that it tells us what to look for in order to discover that there are indeed two kinds of science. It says: look for reductionism. And reductionism is indeed a phenomenon in the sciences—albeit tantalizingly elusive when one tries to give a general account of what it is.

Yet, this approach also has its debilitating deficiencies. For one thing, it is curiously constricted: is the connection of religion to the practice and results of science channelled entirely through this phenomenon of reductionism? Isn't this only one of many such connections? Does the practice of Christian learning amount to nothing more than avoiding (illicit) reductionism? The other side of the coin in this approach is its almost reckless boldness. To hold that reductionism is the clue to the plausibility of the thesis of "two kinds of people, hence two kinds of science" and to hold that reductionism can legitimately be seen as a form of religious idolatry, one must show that *whenever* scholars fail to take God as absolute, their scholarship will display the tell-tale structure of being illicitly reductionist. It is right here, at this central point, that the approach breaks down. For it would appear that there are many cases in the practice of science, and many examples among the results of science, which do not commit their practitioners or holders to any form of reductionism. Neither Dooyeweerd, who especially embraced and elaborated this approach, nor anyone else has ever succeeded in showing otherwise.

Christian Learning: Not Different But Faithful

Up to this point, I have spoken of the neo-Calvinist movement as though it were "out there" as though I were not a part of it. But that is not how things really are. I myself was reared intellectually within this movement. It was the context within which my own intellectual life began. Its denial of the neutrality and autonomy of scholarship with respect to religion was something I embraced early on, and which I continue to embrace. Nonetheless, I have come to feel acutely that the first- and second-generation founders of the movement did not succeed in pinpointing the connection between religion and the practice and results of scholarship. It was for this reason that I developed my own notion of "control beliefs" in my book, *Reason within the Bounds*

of Religion.⁵

What impelled my own reflections was not, however, only the sense that illumination was in short supply concerning the point of connection between religion and scholarship. I also found myself disagreeing on various substantive matters. For one thing, I came to be skeptical about the basic thesis of “two kinds of science.” Not that I came to doubt that there is such a thing as Christian learning, or that Christians who are scholars are called to practice such learning. I myself have made as powerful an appeal as I can for that very thing. In making my appeal, what I meant by Christian learning was *faithful* learning: Christian learning is learning practiced in fidelity to the gospel. Obviously, that is also what Kuyper meant by Christian learning. But in Kuyper and many of his followers, the notion of Christian learning as faithful learning was always paired off with, and often overshadowed by, another understanding. Christian learning, it was said, is *different* learning. There *must be* two kinds of science in all the disciplines.

We have seen what this claim came to in Kuyper. With respect to the deliverances of the senses and of “reason” the Christian and the non-Christian can talk to each other. Usually they will find themselves in agreement on such matters; and where they do not, the disagreement is not due to religious divergence but to subjective psychological quirks whose effects can be corrected in the discourse of the academic community. Beyond the deliverances of the senses and “reason” however, there is no agreement, nor any hope of rational adjudication of disagreement. All we can do is state our positions and agree to disagree. It is in that sense that there are two kinds of science.

But surely this is flagrantly false to the experience of all of us. All of us who are Christian scholars find ourselves agreeing with our non-Christian colleagues on vastly more than the deliverances of the senses and “reason.” And where we disagree on matters other than such deliverances, it is our experience that there often exist rational methods of adjudication. It is not true that all each party can do is declare, Here I stand. Kuyper’s mistake was to suppose that if some dynamic in a person is fallen but susceptible to healing by regeneration, then all the results of that dynamic in a person *not* touched by regeneration will be unacceptable to the Christian. But surely that is not the case.

The point can be put like this: even if we set aside the deliverances of the senses and “reason” consensus and dissension in the sciences are not to be found neatly along the fault lines of the break between Christian and non-Christian. Kuyper’s model fails to account adequately for the areas of consensus and controversy that actually

exist within the sciences. I submit that any adequate theory of *scientia* must account for consensus as well as for controversy.

I know, of course, how some convinced neo-Calvinists would reply. They would grant that I have correctly described how things *appear* to be. But they would insist that either I misperceive where the differences actually are, or that the infidelity of Christian scholars has resulted in differences failing to develop where they ought to.

Admittedly, we often *do* misperceive where the differences lie between Christian and non-Christian scholarship. And admittedly, Christians often *have not* been fully faithful in their scholarship. But what I am addressing is how far consensus does in fact reach. The questions I raise are these: Why should it be thought that consensus (beyond the senses and “reason”) is always *merely* apparent? Why *must* this be so? Why assume that the scholarship of Christians and non-Christians *must* always and everywhere be different except for those thin points of commonality? Why not instead let the differences fall where they may? Why should the Christian’s project be defined primarily in terms of its *difference* from that of others? Why isn’t fidelity enough? Why isn’t it enough to urge that Christians be *faithful* in their scholarship? Why not be thankful for genuine agreement instead of being endlessly suspicious and querulous? Must we not balance suspicion with gratitude?

Faithful scholarship will, as a whole, be *distinctive* scholarship; I have no doubt of that. But difference must be a consequence, not an aim. And if at some point the difference is scarcely large enough to justify calling this segment of scholarship a “different kind of science” — *Christian* science in contrast with competitors which are *non-Christian* — why should that, as such, bother us? Again, isn’t *faithful* scholarship enough? Difference is not a condition of fidelity — though, to say it once more, it will often be a *consequence*.

Furthermore, it is a profound and even insulting mistake to lump all non-Christian scholars into one large group, labelling them all naturalists or humanists. The faithful Jewish scholar is not a naturalist or humanist. Neither is the faithful Muslim scholar. If it is difference that defines Christian learning, then it must be noted that Christian scholars differ from their Jewish colleagues on some matters, from their Muslim colleagues on others, from their naturalist colleagues on yet others, and so on. Nothing is served by lumping these all together. The differences are different. There are *many* “kinds” of *scientia*, not just two. Furthermore, we must seriously consider the possibility that, at least in the case of Jews and Muslims, the non-Christian is *not* worshipping a different god, not worshipping an idol, but merely worship-

ping differently the same god, the one and only God. Worshipping him deficiently, yes—so I as a Christian will say; but nonetheless worshipping *God*.

Christian Learning: Monitoring Basic Disposition

I have suggested that Christian scholarship is faithful scholarship. By that I mean it is to be defined not by its difference but by its fidelity. I mean something else as well. I observed earlier that there is a powerful impulse in the neo-Calvinist movement to think of every human life as being in service to something or other, to God or an idol. Two things are striking about this. For one thing, to think of human life in this way is to think of it as fundamentally affective in nature, with our affections often functioning as motives for intentional action. Second, it is to think of our affections as somehow having a hierarchical structure, oriented as a totality around God or an idol. Though Kuyper does not make his thought fully explicit, my surmise is that he believed that this model held for all that transpires in the sciences, except for coming to believe something through the senses or “reason.” Perhaps he saw these as grounded in dispositions rather than affections and decisions; and though he would surely think that at least some of the dispositional structure of the human self is altered and healed by regeneration, perhaps his thought was that these *belief*-dispositions are not so affected.

I contend that there is a large area of human life to which this affective/volitional model does not apply. Many of our actions, and many of the changes in our consciousness, are due not to affections and intentions but rather to created *dispositions* and acquired *habits*. We are all disposed to believe certain things about the past when we have what may be called memory experiences. We are all disposed to model our actions on the actions of those we admire. And so on. In short, many human actions are not performed in the service of anything at all, and many changes in consciousness do not come about because of our service to something. They come about because of our dispositional and habitual natures.

We must tread carefully here. I do not mean that habits and dispositions—and the actions and changes that emerge from their workings—are isolated from and impervious to our new life in Christ. We are all capable of *monitoring* our habits and dispositions; and where we find them out of accord with that new life, we are to undertake the discipline of seeking to alter them. For of course our habits and dispositions are

fallen. But the fact that I have altered some habit or disposition of mine so that it now works in accord with my ends and principles does not mean that that habit or disposition has disappeared in favor of *decisions* to act on those principles or ends. Though I can work on altering my disposition to believe what people tell me, to alter it is not to eliminate it.

So when I say *fidelity* is the basic desideratum for the Christian in his or her practice of scholarship, I mean to avoid that radical obliteration of our habitual and dispositional nature to which the neo-Calvinist is so regularly tempted. What the gospel asks of us is that we obey all the commands of God in our life, not that we attempt the impossible task of making all of life consist of acting out of obedience to the commands of God.

An Interactive View of Science

This leads me to a final point of disagreement with prominent representatives of the neo-Calvinist movement. A crucial failing in Kuyper and many of his followers is that they overlook the fact—or resist acknowledging the fact—that developments in scholarship sometimes lead persons to alter their religious convictions, and that sometimes at least this is fully justified, even obligatory. The notion that scholarship may at times yield religious illumination is, to many neo-Calvinists, abhorrent. Their picture of the relation between Christian conviction and scientific practice and result is entirely one-directional, from faith to science. Kuyper's emphasis, you will recall, is entirely on the way palingenesis influences science. (It may be observed that Karl Marx also held a one-directional view concerning the place of religion in life. For him, however, the direction was just the opposite: religion is never cause but always effect.)

What lies behind this one-directional, non-interactionist view of the relation between religion and the practice of scholarship is, it seems to me, what Charles Taylor in his fine books, *Hegel* and *Hegel and Modern Society*, calls the *expressivist* vision of life. In this vision, human activity and life are considered expressions of the self. According to Taylor, the expressivist vision was characteristic of the Romantics.⁶ Yet we find it here in Kuyper as well. Of course, Kuyper and his followers believed in an objective, structured reality. Often they used the language of sight: the Christian gospel enables us to “see” aright. Thus Neo-Calvinism is most nearly akin to the *interpretive* vision of the medievals, in which the universe is treated as a text whose meaning

we are to interpret, and in which meaning for the self is found by conforming to reality. Yet, the overwhelming emphasis in Kuyper's discussion of science is that science is an expression of the self—and since there are two kinds of selves, then there must be two kinds of science. This understanding of science was only part of Kuyper's larger vision: he understood culture and society in general fundamentally as expression, specifically, as expression of religion. Not surprisingly, then, he scarcely noted any influence in the opposite direction: the influence of culture and society on the religion of the self.

Science is not solely an expression of the self, however. It is likewise the outcome of the impact of the world on us, coupled with the impact of the social practice of science. Self, world, social practice: it is from the interplay of these three that science emerges. It is true, indeed, that out of the heart are the issues of life—but *into* the heart go the issues of life as well.

The Social Practice of Science

In my own book, *Reason within the Bounds of Religion*, I approach these matters not by way of a discourse on the relation between the abstract phenomena of religion and science, nor, as does Kuyper, by way of a discourse on the contribution of the subject to science. Instead, I reflect first on what actions are involved in an individual's engagement in the practice of science, and then specifically a *Christian* individual. Action—*doing* scholarship—was put on center stage. The basic issue I discuss is “the role of one's Christian commitment in one's practice of scholarship.” (21) Of course, a host of interconnected actions go into the practice of scholarship. I suggest in my book, however, that it might prove especially illuminating to focus on the action of *weighing* some claim or proposal of scholarship—that is, of deciding whether to accept or reject it. This action of weighing, though far from constituting the whole of the practice of scholarship, is certainly central to it.

If I were writing the book today I would, in turn, set the Christian's weighing of some proposal or claim of scholarship within the context of his or her participation in the *social practice* of scholarship. This social practice should be taken as the basic context for our reflections here. Of course, there are also scientific *results*, and scientific *equipment*, and all of that, but these emerge from, or gain their significance from, scientific practice. The notion of social practice enters deeply into contemporary thought on a multitude of topics. Yet it has never,

to my knowledge, been given a sustained and penetrating analysis. The best analysis of which I am aware, brief though it is, is that offered by Alastair MacIntyre in his book, *After Virtue*. Let me briefly mention some of the salient features of social practices to which MacIntyre calls our attention.

A social practice, such as farming or figure skating, is a complex activity that the practitioner *learns* to do. It requires knowledge and skills that we are not born with, nor do they emerge simply through maturation. The requisite learning occurs in part without explicit teaching in apprentice situations by way of modeling. Almost invariably, however, explicit teaching has an important place in learning as well. Furthermore, as practices become increasingly complex, experts arise who are not themselves practitioners but whose business it is to induct newcomers into the practice: coaches, advisers, teachers, etc. I use the word “induct” advisedly here. Practices have histories, traditions—novices are inducted into an ongoing activity and tradition that existed before they entered it.

To be inducted into a practice is to assimilate goals for one’s engagement in the practice, and standards of excellence for one’s performance in it. It is to learn, for example, what are the various goals of farming and what constitutes excellence in figure skating. It is of prime importance to realize that these goals and standards are not for the most part analytic of the practice. Quite the contrary: among contemporary participants in a practice, there will often be considerable disagreement as to the appropriate goals and standards for that practice. Likewise, at different times in the history of the practice there will usually be considerable change in the dominant goals and standards. Sometimes these changes result from the implementation of new ideas coming in from the surrounding society. Sometimes they are responses to technological innovations. Sometimes they result from the impact of a practitioner with a new and creative vision of possibilities within the practice. Other causes of change could be mentioned. My point is: the malleability of practices with respect to goals and standards means that they are open to new modes of human endeavour and excellence.

An implication of this openness is that it is a mistake to ask for *the* goals and *the* standards and *the* methods of a social practice such as art or science, as though art and science were some sort of static, Platonic essences descending into history in the fullness of time. Today the hypothetico-deductive method is prominent in the natural sciences, whereas in the 18th century it was almost universally frowned upon and the method of induction was favored. A high medieval like Aquinas

would have thought both were alarming and lamentable fallings away from the true method of starting from what one sees to be true and proceeding exclusively by deduction.

Much more could be said about the notion of a social practice, but enough has been said for my purposes on this occasion. As I now see it, the fundamental issue to be posed here is how the convictions, goals, and practices of the Christian intersect with the social practice of *scientia*.

Control Beliefs

Let us return to what we put on center stage: a person of Christian commitment engaging in the act of weighing some claim or proposal of scholarship. We are to visualize this person as having been inducted into the relevant part of the practice of scholarship. I stress in my book that such a person, both by virtue of being a Christian and by virtue of being inducted into the practice of scholarship, will always approach such an episode cloaked in beliefs—as indeed in motivations and dispositions. Invariably, some of those beliefs, some of those *praejudicia*, will function as “control beliefs” for his weighing of theory or interpretation.

What do I mean by that? Customarily one holds to certain propositions that are viewed as evidence for or against the claim or proposal one is weighing. This isn’t the case all the time: sometimes one finds oneself without any relevant evidence for or against a proposal, and then simply has to wait. On the other hand, evidence may sometimes be irrelevant: one either “sees” the proposal to be true or one doesn’t, and that is the end of the matter. Usually, though, one will have what I call in my book “data-beliefs” that form a framework of evidence for or against any given proposal.

There are other beliefs that control one’s weighing of a theory, and it is these that I emphasize in my book: the beliefs one has concerning the *type* of theory acceptable on the matter in question. If we approach these matters from the side of the results of science, we may well never notice the presence and relevance of such beliefs. But if we approach them from the angle of engagement in the practice of science, then we see at once that discussions and disputes in the sciences are by no means confined to “factual” claims, that is, to disputes about theories, interpretations, and evidence. There are also disputes over the cognitive standards and goals of science and—so closely connected with these as to make it difficult sometimes to draw the line—disputes over

the proper methodology for attaining those standards and achieving these aims.⁷

Examples are abundant. The intuitionist in mathematics says we should avoid committing ourselves to entities for which no “construction” is at hand, the nominalist, that we should avoid committing ourselves to abstract entities. Some in the social sciences insist the proper goal is the construction of a nomological science, others, that it is the construction of a hermeneutic science. Some practitioners of 17th century physics thought hypotheses about non-perceptible entities were an appropriate part of their science. Others thought good physics would consist entirely of inductive generalizations from and to the perceptible. Throughout the modern period, some have thought that the goal of *scientia* is certitude, while others have argued that we must embrace fallibilism. So it goes, on and on. In none of these cases was the topic of dispute the acceptability of a particular theory or interpretation; it was, rather, the acceptability of certain cognitive goals or standards, or the methods appropriate for achieving those—it was, in short, what *sorts* of theories are acceptable. Such disputes open our eyes to the presence of control beliefs among the *praejudicia* we carry with us in weighing a theory or interpretation.

In my book, I suggest that if one wants to understand the connection between a person’s Christian convictions and his or her weighing of some claim or proposal of scholarship, it will often be illuminating to focus on this phenomenon of control beliefs—of *praejudicia* concerning aims and standards and methodology. For among that person’s *praejudicia*, functioning as control beliefs, will be various of his or her *religious* convictions. Not only will this be so *actually*, I argue in my book; it will be so *appropriately*, provided, of course, that the person is epistemically justified in holding those convictions.

I grant that what functions as a “factual” claim in one’s practice of scholarship may at the same time be part of one’s Christian convictions, or may be entailed thereby. I also grant that what functions as evidence in one’s weighing of theories or interpretations may belong to one’s Christian convictions, or may be entailed thereby.⁸ But these are more the exception than the rule, I think, and are considerably more prominent in theology and philosophy than elsewhere. Usually the connection between Christian conviction and weighing of claims is through control beliefs. For example: Christians, committed as they are to human responsibility, are thereby also committed, as I see it, to human freedom; which means they will reject purely deterministic accounts in the social sciences and search for non-deterministic accounts.

Their religious commitment to responsibility and freedom functions as a control belief in their weighing of theories in the social sciences. As another example, the Puritan members of the Royal Academy in the 17th century were perhaps right when they argued in favor of experimentalism, and against pure deductionism, on the ground that we must not presume how God the creator made this world of ours but must humbly go and look.

I am presupposing, of course, that between Christian conviction, on the one hand, and particular scholarly claims or proposals, on the other, there can be genuine tensions or affinities. There are those who deny this, who hold that though we may feel tensions exist, these are not real tensions. The point has been developed in various ways, sometimes by giving a non-realist construction of science, sometimes by giving a non-realist construction of religion, etc. I cannot argue the case here but must content myself with affirming that, as I see it, the Christian gospel speaks not only about God but also about this world, and that scholars speak not only about this world but also about God. Hence, an ever-shifting blend of tension and affinity is what the Christian must expect when he or she engages in the social practice of *scientia*.

It is, of course, at this point that my rejection of the expressivist vision, in its neo-Calvinist version, becomes especially relevant. I firmly insist that in the case of conflict between one's Christian convictions, on the one hand, and something presented for one's acceptance in the pursuit of science, on the other, often it is science that ought to give way. In my book I launch an attack on the foundationalist claim that that kind of retreat in science would be appropriate only if one had grounded one's Christian conviction in what is self evidently or incorrigibly certain. It is true, as I have already mentioned, that to be justified in rejecting a theory or interpretation because it fails to comport with one's religious convictions, one must be epistemically justified in holding those convictions; it must be rational for one to hold them. But it is not the case that it is rational for one to hold them *only if* they are grounded in certitude. On the other hand, I also insist that in cases of conflict between religion and science, people may sometimes alter not their scientific but their religious convictions, and that they may do so justifiably; sometimes they may even be obliged to do so. Though at times the right and even obligatory thing to do is to maintain one's religious convictions and make one's science conform, at times the rational and even obligatory thing to do is resolve the tension by revising one's religious convictions. At a certain point, for instance, it was no

longer epistemically permissible for Christians to believe they were religiously obliged to hold to the geocentric theory.

God's Word to Fallen Creatures

I am well aware that to say these things is to evoke anxiety in a good many Christians. Some will be made uneasy by the fact that there is no criterion telling us when to resolve conflicts by changing our science and when by changing our religious convictions. Others will fear that if we surrender uni-directionality, either as a causal fact or as rational duty, then we can no longer acknowledge that there is a Word from outside our existence commanding acceptance and obedience—a Word from God. Earlier I said Christian learning is fundamentally faithful learning. The worry is that the acids of history will eat away at fidelity until there is nothing left of it and everything is up for grabs.

This worry deserves full discussion. Here I must content myself with setting clearly in front of us the main point I would make if I were to compose such a discussion. The Christian conviction that there is a Word from outside our existence, calling us to acceptance and obedience, is fully compatible with acknowledging that we as Christians, along with the rest of humanity, are often mistaken in our religious convictions. It is even compatible with the claim that we sometimes find ourselves in the presence of evidence so compelling against some element of our religious convictions that we ought to give up that element. The Word of God comes to fallen creatures, creatures fallen in their religion as well as in the rest of their life. It comes to creatures not lifted out of the fallenness of their existence, not even out of the fallenness of their *religious* existence, by having bowed their hearts and minds and heads before the voice of the Lord their God. That is the essence of what I would say.

Footnotes

1. Larry Laudan, *Science and Values*, 5.
2. Abraham Kuyper, *Principles of Sacred Theology* (Grand Rapids: Eerdmans, 1954).
3. "A worldview is a matter of the shared everyday experience of human kind, an inescapable component of all human knowing, and as such it is nonscientific, or rather (since scientific knowing is always dependent on the intuitive knowing of our everyday experience), *pre-scientific* in nature. It belongs to an order of cognition more basic than

that of science or theory. Just as aesthetics presupposes some innate sense of the beautiful and legal theory presupposes a fundamental notion of justice, so theology and philosophy presuppose a pre-theoretical perspective on the world. They give a scientific elaboration of a worldview.” Albert Wolters, *Creation Regained* (Grand Rapids: Eerdmans, 1985), 9.

4. Cf. the explanation of “ground-motive” offered by John Kraay: “the dynamic community-establishing expressions of ultimate meaning in terms of which Western civilization has been, and still is being, shaped.” John Kraay, Translator’s Preface to *Roots of Western Culture*, by Herman Dooyeweerd (Toronto: Wedge Publishing Foundation, 1979), ix. All this is remarkably similar to what Jellema said, for example, in “Calvinism and Higher Education” in *God-Centered Living* (Grand Rapids: Baker Book House, 1951) and in his pamphlet, *The Curriculum in a Liberal-Arts College*.

5. Nicholas Wolterstorff, *Reason within the Bounds of Religion* (Grand Rapids: Eerdmans, 1976).

6. Here is, in part, Taylor’s description of the expressivist vision:

[As a] protest against the mainstream Enlightenment view of man—as both subject and object of an objectifying scientific analysis...Herder and others developed an alternative notion of man whose dominant image was rather that of an expressive object. Human life was seen as having a unity rather analogous to that of a work of art, where every part or aspect only found its proper meaning in relation to all the others. Human life unfolded from some central core—a guiding theme or inspiration—or should do so, if it were not so often blocked and distorted....

[The] image of expression was central to this view not just in that it provided the model for the unity of human life, but also in that men reached their highest fulfillment in expressive activity. It is in this period that art came to be considered for the first time the highest human activity and fulfillment, a conception which has had a large part in the making of contemporary civilization. These two references to the expressive model were linked: it is just because men were seen as reaching their highest realization in expressive activity that their lives could themselves be seen as expressive unities....

But men are expressive beings in virtue of belonging to a culture; and a culture is sustained, nourished, and handed down in a community. The community has itself on its own level an expressive unity.

It is once more a travesty and a distortion to see it as simply an instrument which individuals set up (or ought ideally to set up) to fulfill their individual goals, as it was for the atomist and utilitarian strand of the Enlightenment.

Expressivism also sharply broke with the earlier Enlightenment on its notion of man's relation to nature. Man is not body and mind compounded but an expressive unity englobing both. But since man as a bodily being is in interchange with the whole universe, this interchange must itself be seen in expressive terms. Hence to see nature just as a set of objects of potential human use is to blind ourselves and close ourselves to the greater current of life which flows through us and of which we are a part." *Hegel and Modern Society* (Cambridge: Cambridge University Press, 1979), 1-3.

7. Laudan offers an especially good discussion of the interconnection of such disputes.

8. Both of these possibilities would be denied by Dooyeweerd, who insisted that one's religious convictions belong exclusively to the realm of the *pre-theoretical*.