

THE IDEA OF A CHRISTIAN SCIENCE AND SCHOLARSHIP: SENSE OR NONSENSE?

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I

How is one ever to answer the question raised in my title? Given the character of science and scholarship as they have come to be in the modern world, how could one do other than give a negative answer? The very idea of a science or scholarship that is specifically and properly Christian would seem to be, if not non-sense, then certainly out of the question in the present day and age. This is not to say that there are not many contemporary scientists and scholars who, as individuals, are committed Christians. And to judge from current pulpit oratory and tract-literature, it is a fact of no little import that there are a goodly number of Christian scholars and scientists in the world today. But really, are there so many after all? And even if there are, just what does that prove?

Indeed, as for those of us who do both profess Christianity and make some claim to being either scientists or scholars—why don't we put to ourselves a diagnostic question by way of self-examination? Precisely how is it that our scientific or scholarly knowledge may be supposed either to proceed directly from, or, in turn, to contribute directly to, our Christian faith? Many of us may be hard put to find an answer. Yes, one almost wonders whether it has not come to be with science and scholarship what it has long been recognized to be with arts and skills of the more ordinary sort. For while there is no denying that there are among farmers or automobile mechanics or accountants or computer experts or gourmet cooks, any number who may be very devout Christians, still would it not have to be acknowledged that however genuine a given individual's Christianity might be, it could hardly be said to be of any very direct relevance to his skill and success as a gourmet cook, farmer, accountant, mechanic, or computer programmer?

True, there is a rather celebrated counter-example. What about fishermen! Was it not precisely in virtue of their having been disciples of Christ that certain fishermen were told to "let down their nets for a draught"? Then, despite their "having toiled all night and taken nothing," they "let down the net. And when they had done this they inclosed a great multitude of fishes; and their net brake." (Luke V:4-6.) However, treating this case with all due reverence, I wonder if we would not need to regard it as the exception that proves the rule? For let's face it: one's Christian faith just does not seem to have anything very much to do with one's skill and



competence in one's chosen field or profession. And surely this would include one's profession as a scientist or scholar as well. Or would it?

In any case, let me move to a somewhat more graphic and telling illustration of how, in today's world, those of us who are at once Christians, and also scientists or scholars, have had to face up to the fact that not only have our concerns as scientists and scholars seemed to move far afield from our concerns as Christians, but also that our Christianity just does not seem to have any particular pertinence to our science and scholarship. It was back in the 1950s when an undertaking was launched by two young Anglican priests. They were animated by a conviction that what was sorely needed in this country was a four-year liberal arts college that would be both Catholic and Christian in a quite distinctive sense. The College of Christ the King was what they intended to call it. Their idea was that the college should be Catholic and Christian in some other sense than that of being merely "Church related," in the currently depressing sense of that term! That is to say, it would be characterized by something rather more than a chapel in the center of the campus, with occasional priests running about in cassocks and clerical collars, meting out pastoral counseling at the drop of a hat. No, this was to be a Catholic and Christian college whose very course of instruction would be specifically Catholic and Christian. Not that the instruction was necessarily to be heavily weighted toward courses in the Bible, or in Church history, or even in theology. No, this was to be a curriculum in which the undergraduates were to be imbued with a veritable Christian learning directly in the sciences and humanities, as these have come to be understood in the modern world.

But how was this to be done? That was the question! The two young organizers of the project had been quite successful in securing a substantial amount of funding, at least for the initial stages of their project. Moreover, these initial stages consisted (1) in securing a proper site for the college—and indeed, a rather choice site was actually secured on the campus at the University of Chicago—and (2) in carrying out a number of what today would doubtless be called "feasibility studies." These were conducted by convening a series of conferences, and paying the expenses of various academic scientists and scholars—most of them of more or less pronounced Episcopal leanings—and getting these assembled Episcopal "leaners" to present papers and discuss how such a Christian learning might be effected within the confines of a present-day college.

Will it surprise any of you what the sorry outcome was of all these deliberations? In all of the sessions of the assembled Anglican academics there was absolutely nothing forthcoming—and I mean nothing!—in the way of practical and meaningful proposals of how such a Christian learning should even be conceived, much less taught in a present-day academic curriculum! I seem to recall one stumbling block that epitomized all of the others. "Just tell me," one academic remarked, "how could anyone ever presume to present students with any such thing as a Christian

chemistry!" Believe me, that question was an absolute stumper, so far as the project of the College of Christ the King was concerned! And would it not equally be a stumper today?

Here is an even more distressing instance to the same effect. This one concerns not the question of how a liberal arts program in the sciences and the humanities might be rendered a properly Christian program, but rather the question of how programs in our present-day theological schools might be freed from their present narrowness and almost anti-intellectualism, and thus made more receptive of the many current developments in philosophy, science, and humanistic scholarship generally. Oh, it's true that I don't have much first-hand knowledge of what is actually going on, curricular-wise, in present-day theological schools. Indeed, the only such schools that I would have any occasion to know about are those in my own denomination, the Episcopal Church, U.S.A. Still, I would wonder if my largely impressionistic judgment would be far wide of the mark, were I to assert that nothing characterizes today's seminaries quite so much as their creeping anti-intellectualism! It's as if they scarcely wanted to have anything to do with such serious science and scholarship as falls outside the rather narrow range of their specifically theological subjects. For what does the life of the mind have to do with the training and formation of clergymen? Instead, one gets the impression that the chief thing sponsored in divinity schools is a kind of mindless activism. Or if not mindless activism, then the stress often seems to fall on that odd and nondescript sort of thing that masquerades under the title of "Christian spirituality." Though if one were to go by the injunction "By their fruits ye shall know them," one might suspect that what the young seminarians thus come to be imbued with is not so much spirituality, as sheer sentimentality!

Besides, if one looks to the more substantive offerings in the curricula of present-day seminaries and divinity schools, as opposed to what one might call their over-all tone or spirit or mood, one is quickly struck by a seeming divorce between the typical "divinity-school learning," as it exists today, and those several varieties of learning that once were most closely associated with theology—viz. philosophy, the humanities, and even science. One cannot but suspect that present-day divinity schools have lapsed into a kind of bunker-mentality—as if (to use another metaphor) they have withdrawn behind the encircled wagons, there to guard their last residue of divinity-school subjects—the Old and New Testaments; Church history; liturgics; pastoral theology; but not natural theology, and doubtless not even dogmatic theology any more either! Oh yes, and there is also likely to be that late-comer among theological school subjects, viz. "Christian Ethics." No, it's not moral theology any longer, but ethics. And yet the ethics, like as not, will be one that has been conceived largely in ignorance of the main tradition of ethics in Western philosophy—Plato, Aristotle, Augustine, Aquinas, Hobbes, Hume, Kant, Hegel, *et al.* And as for the Anglican students, they will doubtless not have

even heard of Hooker or Taylor or Butler, or even of Gore, Temple, or Mascal. How, then, can one be other than suspicious lest the dominant, even if unconscious, motive in all of this is simply one of wanting to keep all real learning—at least in the traditional sense of science, philosophy and the humanities—out of the cloister altogether! And what a contrast this would be with that older attitude which was decidedly one of wishing to appropriate all learning to the cloister—yes even so-called secular learning—to Christianize it, and thus to make it the Church's very own.

Oh, but you will say, is not all of this a useless lament on my part, that I should be complaining of this loss to Christianity of contemporary scientific and humanistic learning? For why cry over spilt milk? What-ever the situation may one time have been, has it not now come to be recognized on every hand that science is quite properly concerned with nature and the natural world, and, therefore, not with things religious at all? And even humanistic scholarship, including philosophy, not only does, but should, occupy itself solely with what we might call things human—human achievements, human history, human creations in art, literature and music. Hence the humanities, as well as the sciences, would appear to have nothing to do with shedding light on what we could call the supernatural, or, indeed, on any of the things that supposedly will occur only in the hereafter, or at the *eschaton*.

Wait a minute, though! For is this quite right? As Christians—yes even as Christians who like to think of themselves as being thoroughly up-to-date—are we quite ready to settle for the notion that the entire world of nature and of history, and what as human beings we are able to know about it,—that all of this is of no concern whatever to the Church, to Christianity, or to a properly Christian learning and scholarship? Must there not keep ringing in our ears such ancient refrains as: “the earth is the Lord's and the fullness thereof”? Nor is it only a case of our having as Christians to recognize that there is nothing in nature and nothing in the whole of history but what is God's creation; in addition, must we not also recognize that somehow all truth, whether it be in science, in philosophy, in history, or wherever, is, and can be, nothing if not God's truth?

Yes, is there not even more to this story of how, for a Christian, all truth and all knowledge ought to be Christian? Just consider the celebrated question and answer from the Westminster Catechism:

Q: What is the chief end of man?

A: The chief end of man is to know God and to enjoy Him forever.

If one were to step outside the confines of the Catechism for a moment, and to ask, “But just how in this life is one ever to know God, or at least to make a start in the way of knowing Him?,” must not the answer be that one should be able to come to know Him in part, and indeed that one has responsibility of trying to come to

know Him in part, through His very works? But then, what and where are His works, if not those very works of nature and in history, which it is precisely the business of science and of history and of philosophy to inform us about?

I realize that, having said this much, I shall immediately be reminded that no one knoweth the Father, or cometh to the Father, save through the Son. And where else does one come to a knowledge of the Son, save only through the Scriptures? In other words—so this argument runs—for a properly Christian knowledge and wisdom, one can pretty well leave the so-called sciences and the humanities entirely to one side, and stick to the Bible alone. No sooner, though, does one but enunciate such proposition, than one quickly recognizes how seriously and even pathetically overdrawn it is. For while it is hard to formulate the counter-proposition with any proper accuracy, much less to give it its proper explanation, still I wonder if there be not something directly within our very profession as Christians that somehow forces us to acknowledge that merely by reading the Scriptures—yes, even if we “read, mark, learn, and inwardly digest” the Word of God as contained in the Scriptures—we can scarcely understand that Word, much less come to a proper knowledge of either the Son or the Father, unless we both bring to bear upon it, and at the same time let it serve to illumine, our entire knowledge of nature and of man that comes from such supposedly secular disciplines as those of philosophy, the sciences and the humanities.

The only trouble is that while we may wax eloquent in maintaining that if we are to know God and to enjoy Him forever we must needs exploit any and all of the resources of present-day science and scholarship to this end, still the real question is: But how is such a thing ever possible? For has not the implication of our whole argument thus far been that this kind of thing just is not possible at all? Present-day science and scholarship will not lend themselves to Christian uses, be it either a Christian education or a truly Christian learning. Moreover, the reason for this unavailability of scientific and scholarly learning, so far as any kind of a Christian wisdom is concerned, would seem to lie simply in the fact that the world of nature as the modern scientist knows it—yes, even being and reality themselves, as disclosed in present-day science—would all appear to be of no relevance whatsoever to any proper knowledge of God. Even as regards the humanities, any traditional Christian hopes of their helping us to understand how it is that God would have us live as human beings—all this has surely been swept aside by the account of nature in general, and of human nature in particular, that emerges from present-day science and scholarship. So far from our ever being able to look to nature for instruction as to what we as human beings ought to do and be, it is rather the case that nature now confronts us as something totally a-moral. There may well be a sense in which it is “natural” for water to seek its own level; but to suppose that from what it is thus natural for water to do, we could ever infer that it is either right or wrong, or good or bad, for water so to act—this is simply ridiculous! And so the conse-

quence seems inescapable: a knowledge of nature, including even human nature, has not the slightest pertinence or significance for any kind of a Christian wisdom, any more than a Christian wisdom or knowledge has any bearing on present-day science and humanities.

All the same, might there not be something decidedly wrong with this picture? Suppose we grant that present-day science and scholarship have no relevance for Christianity. Perhaps that just shows that there is something radically wrong with present-day science and scholarship. For what is it that St. Paul warns us of in the course of the first two chapters of the *Epistle to the Romans*? He firmly counsels us that there indeed is such a thing as a secular learning—which is to say a purely natural knowledge of God, the world and our natures as human beings—; and that this purely secular learning, if we may so term it, is something that we neglect only to our peril. For is it not the case, St. Paul asks, that “in their wickedness (men) are stifling the truth”. Moreover, St. Paul’s basis for this is that “all that may be known of God by men lies plain before their eyes... His invisible attributes, that is to say, His everlasting power and deity, have been visible, ever since the world began, to the eye of reason, in the things He has made, ”so that—as the King James version would have it—“they are without excuse.”

In other words, there is available to mankind, and has been available ever since the creation of the world, a natural knowledge of God, as well as of the Divine order of the world—and this, presumably, in contrast to that more special and particular knowledge of Him that is revealed in Scripture. Nor is it only a knowledge of God and of the order of nature that men may come to possess through experience and by the natural light of reason. No, equally, there is a like knowledge of ourselves and of what we ought to do and be, simply in our capacity as human beings. For again, St. Paul admonishes us: God is no respecter of persons! “Those who have sinned outside the Law of Moses will perish outside its pale, and all who have sinned under that law will be judged by the law.... [But] when Gentiles who do not possess the law carry out its precepts by the light of nature, then, although they have no law, they are their own law, for they display the effect of the law inscribed on their hearts.” (*Romans* II; 11-14.) They are a “law unto themselves,” as the King James version has it.

And now let me pose the direct question: has not St. Paul here given, not just to the scholars and philosophers of his own day but to us as well, the very charter and title-deeds to what can only be called a properly Christian scholarship and philosophy and even science? True, it is not the kind of knowledge and understanding that we owe directly to revelation. Instead, it is a natural knowledge, a knowledge that, in principle at least, is open to all alike, to non-Christians no less than to Christians. The only trouble is that when such a natural knowledge is left up to the “natural man” to pursue, the natural man somehow “blows it.” “That which might be known of God lay plain before their eyes”; and yet they “in their wicked-

ness have none the less stifled the truth." And so it is that God "has given them up to their own depraved reason." "Knowing God, they have refused to honor Him as God, or to render Him thanks. Hence all their thinking has ended in futility, and their misguided minds are plunged in darkness. They boast of their wisdom, but they have made fools of themselves...."

I wonder if much these same strictures might not also be directed against much of the science and scholarship that we have in our day. Yes, for all of its brilliant achievements, I wonder if not a little of modern learning, scientific no less than humanistic, has indeed "ended in futility" and our misguided minds have therefore been plunged in darkness. Moreover, if it be true, with respect to the great mass of our fellow humanists and scientists outside the faith, that God "has given them up to their depraved reason," does that not mean that it then becomes our peculiar responsibility, as scientists and scholars who are within the Faith, to try to rescue our fellow intellectuals from their "depraved reason" and thus to show them how in their boasting of their wisdom they have really made fools of themselves?

This is hardly a job that clergymen and theologians as such should be expected to take on. For what is at stake is a purely natural knowledge, and not a revealed truth at all. Is it not, then, peculiarly incumbent upon us as Christian humanists and "Christian scientists" to try to restore such a natural knowledge to its true character, and to set it once again in its true light, so that the invisible things of God may once more be rendered visible to the eye of reason in the things that are made?

I realize that what I am proposing sounds not just presumptuous, but utterly wrong-headed and even impossible. And yet in such space as I have in this paper let me see if I cannot make, first, just a few suggestions as to how a so-called humanistic knowledge, as we know it from today's study and pursuit of the humanities, might be recovered for purposes of a truly Christian humanism; and then let me throw out a few hints as to how the same sort of thing might be done for present-day scientific knowledge, so as to recover it from its current perversions, and show how it too might be led back into the path of what we might presume to call a truly and properly "Christian science."

II

First, then, as to the humanities and present-day humanistic scholarship. Rather than attempt a systematic critique of such knowledge, why don't I try, in terms of some examples, to evoke for you first, a kind of picture of how humanistic learning has gone sadly astray; and then to evoke a contrasting image of what such humanistic learning might be and ought to be, and how, in such a revised state, it could well constitute a humanistic knowledge in the service of the Church?

To begin with, let's face the blunt question, "Why the humanities? What, after all, is the point of students studying such things as literature, history, and the fine

arts—and not just Christian students, but any students? Or more to the point, what is the point of professors professing them, or of scholars devoting their lives to scholarship in these areas?” And no sooner does one ask such questions, than we will hear the familiar platitudes ringing in our ears. The humanities, we are told, are the staple articles of a liberal education. And what does a liberal education do if not “encourage the development of a tough and disciplined mind”? It’s an education that “serves a liberating function”; it “frees us from the parochialism of our times”; it engenders in us “habits of thought which always ask why, which believe in evidence, which welcome new ideas..., which accept complexity and grapple with it, which admit error and pursue truth,” etc., etc.

All right, all right, I promise I won’t burden you any further with truisms like these! Besides, these truisms are not of my own invention, but are direct quotes from the president of Princeton University! Nor should one be too hard on President Bowen for having used rather specious eloquence to the effect ultimately of saying nothing at all! For suppose we were to listen to any other college or university president; suppose it were Dean Rosovsky speaking of Harvard’s new core curriculum; suppose it were the officials of the National Endowment for the Humanities, or the head of the American Council of Learned Societies, or the executive secretary of Phi Beta Kappa? Would we expect to hear anything better by way of justification of the humanities than still more such platitudes as we just heard from President Bowen? So why blame President Bowen, or why blame me? How may anyone be expected to be other than dull and platitudinous, when he undertakes to discuss the humanities in education today?

But for all of these forebodings, let me take up this challenge and see if I cannot make at least a passing suggestion as to how the kind of humanistic learning we are familiar with in academic circles can be transformed into a relevantly Christian knowledge—i.e. a knowledge that can and should be of serious concern to all of us as Christians. For my thesis is that a humanistic knowledge is nothing if not a moral or ethical knowledge. That is to say, the humanities are just such disciplines as should humanize us, in the sense of teaching us what it means to be human, and what it is that is requisite if we are to live our lives in a truly human way, as well as what sorts of follies and foibles and errors and pitfalls must needs be avoided, if as men and women we are not to turn out to be somewhat less than human, or at least less than we might be, or ought to be, just as human beings. This is what a properly humanistic knowledge is—a knowledge which the pursuit of the humanities, rightly conceived, should be able to vouchsafe us.

And yet this is hardly the way the humanities tend to be regarded in academic circles today. Nor is it a familiar apologia for the humanities, to insist that studying them should offer us no less than a moral or ethical instruction, the humanities being nothing if not an inexhaustible source of materials on how we ought to live, or on what it takes for us to be truly human. Suppose one asks the blunt question as

to why scholars should be devoting their entire lives to finding out about—or why students, in meeting requirements for the A.B., should be set tasks of learning about—the implications of Cromwell's defeat of the Scots in 1650, or the use of political and religious themes in the poetry of John Dryden, or the *cogito ergo sum* of Descartes, or the art of the Middle Kingdom in ancient Egypt, or St. Thomas Aquinas' five ways in proof of God's existence. Put such questions to today's teachers and students of the humanities, and what sorts of answers might one expect to get? In fact, isn't that just the question that in these days of academic stringencies and cut-backs the humanist scholars and professors have simply got to face up to and try to answer? Yes, isn't it almost their "to-be or not-to-be" question? And yet how many of them can answer it? Aye, "there's the rub"!

I would appear to have an axe to grind on this score. But if I do, the reason is that over the last several years I have had occasion to read literally hundreds of statements, addresses, articles, pamphlets, books, college-catalogue effusions and countless other attempts at answering the simple question, "Why the humanities?," and I am afraid that in nearly every case the answers seem to amount to little more than so much guff! Sometimes, the justification is in some vague terms about learning and scholarship for its own sake; sometimes, it is a justification that uncritically conflates the humanities with the liberal arts, and then argues how important it is for people to know what in the vernacular comes down to some variant on "readin', 'ritin' and 'rithmetic." Sometimes, we are treated to a fulsome rhetoric about how it is that through the humanities we are able to broaden ourselves, to liberate ourselves from cultural provincialism, and to set our minds free! But I suspect that the justification one is most likely to hear from the lips, as opposed to the publications, of the professors of the humanities themselves is likely to be in the form of personal testimonies to the enduring and unforgettable and even ineffable experiences that one has had from the reading of Dante or Shakespeare, from hearing a Bach chorale or listening to a Beethoven symphony, from viewing the Rubens paintings on the ceiling of the Banqueting Hall in Whitehall, or from taking in the great prospect of the Campidoglio in Rome. It is in terms of experiences such as these that human beings may be said really to live, to enjoy their finest hours. In other words, it is largely an aesthetic justification that is given for the pursuit and study of the humanities, as if these somehow bring in their train untold experiences which, for their richness and variety and for their lastingly satisfying character, are absolutely unrivalled in human existence. And so perhaps they are.

Unhappily, it seems that we can far more readily appreciate such experiences ourselves, than ever manage to tell others about their peculiar kind of value—much less communicate this to those who have not experienced them. Perhaps that's the very reason that apologies for the humanities are so hard to bring off. And yet it can be done, sometimes with a peculiarly telling rhetorical skill. By way

of example, let me cite what I think was a singularly gifted performance in this vein by Georgetown's president, Father Healy, at a convocation address a few years ago. It was an address in which Father Healy recounted his own most recent experience in the matter of teaching the humanities. Not long after he became President of Georgetown, he had volunteered to offer a very special course in English poetry—Donne, Yeats, Dylan Thomas, and I don't remember whom else—that was to be given to just a few select honor students from the Georgetown Medical School. As Father Healy related it, the effect upon the students was nothing if not electric. Here they were, students who, day in and day out, were being subjected to a massive and unceasing barrage of scientific facts. For, as Father Healy put it, the scientific way is one of the "two major ways in which knowledge impacts the human mind." Now the scientific way consists in "a controlled and logical analysis that adds fact upon fact and ultimately compels assent." Contrast, though, the way of the humanities! "The subjects so included are literature, the fine arts, philosophy, history, theology and probably half a dozen others that I'm missing. Here we see a totally different kind of learning and teaching. We who teach in the humanities are brush-clearers, path-makers, removers of obstacles. We must clear the way, rather like raising the curtain on a play. Ultimately, our trade consists in putting the student in touch with the object or process which we are trying to teach. And then as Mark Antony says, 'mischief thou art afoot!'. Once I have brought a student face to face with King Lear, so that he reads the play clearly, and with some understanding of the way Shakespeare intended it, I have set up a spiritual chain reaction which is utterly uncontrollable. The explosion which occurs when a young mind meets a great work of art or a great idea is unpredictable, violent and chaotic."

Nor does Father Healy stop there, for the entire world of humanistic scholarship, he says, is "a kind of chaos": it takes the student out of the predictable world where all of us live and into the world of dream. "It's a world of gentleness where there is no hurt, where there is much delight, and where we and you are emphatically at our best. After 30 years of coping with this kind of anarchy I have learned not to fear it—and would hope that you won't fear it either."... "If you let yourself go, you can be drawn out of fatigue and into the wild and daring world of the imagination where things you never dreamed possible remain impossible, but for brief fleeting moments, moments in and out of time, let you believe that you can confuse the dancer with the dance and enjoy yourself."... "Come on in, the chaos is fun." And so drawing to his conclusion, Father Healy notes that "the essential ingredient" in the life of the student is "his capacity to dream. College is ideally a sheltered world where the imagination has free reign and where the most impossible structures can be raised, because they will hurt no one when they fall. Colleges and universities are dream worlds. Moreover, it is toward the engendering of just such dreams that the humanities serve their purpose in a liberal education. And in conclusion,

Father Healy quoted that great, fetching speech of Caliban, where he tells how “the isle is full of noises, sounds, and sweet airs,” such that, Caliban says, “in dreaming,” it was such that “when I waked, I cried to dream again.”

Now I ask you, Could anything be more persuasive or more eloquent than this? And yet with all due respect, as well as with no little effrontery, I want to say, “No, sorry, Father Healy, you are all wrong!” The justification for the humanities lies not in the fact that they set up spiritual chain reactions in students, which in turn propel the students right out of the world of fact and of science and of knowledge, and into a world of chaos and of anarchy and of dream. No, it is precisely the humanities that should serve to bring not only students, but all of us as well, out of the mere dream world of our romantic and childish fantasies, and into that real world of human fact and human reality—a world, alas, which we are ever trying to flee from, and that many of us have scarcely even bothered to find out about at all. And so far from encouraging us to forsake the realm of knowledge for the realm of chaos and imagination and dream, it would rather seem that the very motto of the humanities and of a humanistic education might well be no less than the Socratic injunction, taken from the oracle of Delphi, γνῶθι σαυτόν, “know thyself” — which could be interpreted in the present context to mean: “know what it is to be human, and then attempt to put such knowledge into practice.”

Yes, as a kind of rebuttal to Father Healy, why might I not invoke Aristotle’s celebrated pronouncement in the *Poetics*: “Epic poetry and Tragedy, as also Comedy, Dithyrambic poetry, and most flute-playing and lyre-playing, are all, viewed as a whole, modes of imitation.” For quite patently Aristotle does not mean that art imitates nature or reality in the way a photograph does the scene which it reproduces—if for no other reason than that in Aristotle’s eyes there must needs be a great deal more to reality than any mere photograph could ever represent. But be that as it may, one thing that Aristotle does intend to suggest here is that, however the notion of “imitation” may be understood, it is just the rhythm or the language or the harmony that in each of the instances cited is the precise means of the imitation. And so Aristotle continues: “Rhythm alone, without harmony, is the means in the dancer’s imitations; for even he, by the rhythms of his attitudes, may represent men’s characters, as well as what they do and suffer.” Likewise, there’s the sort of imitation that is brought off by using language alone, be it prose or verse. And as for “the objects the imitator represents,” [these] “are actions, with agents who are necessarily either good men or bad men—the diversities of human character being nearly always derivative from this primary distinction, since the line between virtue and vice is one dividing the whole of mankind. It follows, therefore, that the agents represented must be either above our own level of goodness, or beneath it, or just such as we are.”

But look, what have we here! For if poetry, the dance, painting, sculpture, and the novel aim not simply at providing us with aesthetic experiences, but at “imitat-

ing,” or disclosing for us, nothing less than human action and human character and, we might add, the reality itself of our human situation, then why should our objective in pursuing and studying the humanities be any mere affair of generating aesthetic experiences as such? No, the objective would be nothing if not a proper knowledge and understanding—a knowledge of what it means to be a human being. Not only that, but if, as Aristotle suggests, human action and human character cannot properly be imitated or represented, unless the excellence or deficiency of such action, its virtue or its vice, its goodness or badness, be represented as well, then clearly the knowledge of human nature and of our human situation that we may be presumed to derive from the pursuit of the humanities, will turn out to be no less than an ethical and a moral knowledge.

Does this not give the would-be Christian scholar of the present day just the cue, and the ammunition, that he needs in order to move directly in and literally to wrest humanistic scholarship from the hands of the very humanists themselves, and then to convert it into a veritably Christian scholarship once again? Why may not such a latter-day Christian scholar undertake to do no less than (in the words of the Authorized Version) to “lead captivity captive”? (Cf. Psalm 68:18 and Ephesians 4:6.) For have the mine-run of scholars in the humanities today not been led captive by the preconceived notion that nature is but a realm of facts to the exclusion of all values, and that therefore from any study of facts about human nature, one cannot possibly learn anything about what human beings ought to do and be, or, in turn, about what God would have us do and be, simply as men? Indeed, is this not the very reason why so many present-day humanistic scholars like Fr. Healy would so cavalierly insist that the business of the humanities is not with the world of nature or of fact at all—no, not even with human nature, or human fact—, all of that being instead the exclusive domain of the scientists? No, the world that the humanist has to do with is the world of fantasy and fiction and dream—or at least so our misguided humanists of today tend to tell us.

In response to this why may not our newly awakened Christian humanists apply to their fellow scholars and scientists of the present day even the strong language of St. Paul: “In their wickedness they have stifled the truth,” and this notwithstanding the fact that “all that may be known of God by men lies plain before their eyes...and has been visible ever since the world began to the eye of reason in the things He has made.” In other words, it is just because our fashionable, latter-day humanist scholars have failed to recognize that which is “visible...to the eye of reason in the things He has made” that our modern humanists have now become “without excuse.”

III

But what now of science—i.e. of modern natural science? Our task can hardly

stop merely with an attempt at rescuing the humanities from contemporary humanist scholars and so of restoring them to a truly Christian humanism. Do we not have to consider whether and how modern natural science might possibly be restored to being a "Christian science" once again? Yes, one might almost wonder whether the latter task be not one that is necessarily presupposed by the former. Or at least so it would seem in the present day. Recurring to our earlier example of Father Healy and the radical misunderstanding of the nature and purpose of the humanities that is not untypical of scholars in the humanities today, must we not recognize that this very error has been inherited from the scientists? Is not this the source and genesis of Father Healy's error: since the facts of nature, and of human nature in particular, can afford no basis whatever for an understanding either of human excellence or of human folly, either of human responsibilities, or of their evasion, there would seem to be no point for humanists any longer to occupy themselves with the facts of nature at all, be that nature human or otherwise. For if from such facts one is able to learn nothing of significance for our lives as human beings, then why bother with such facts? Why would it not make far more sense for our latter-day humanists simply to give themselves over to the kind of riotous indulgence in the world of fantasies and dreams recommended by Father Healy?

Just by way of bringing this issue more fully to a head, suppose we suddenly inject a quotation from Richard Hooker! But why Hooker? Any quotation from "the judicious Hooker" can scarcely do other than carry us back to the late 16th century. Why, though, might not such a sudden going backwards in time prove to be at once salutary and instructive? For precisely from reading such a quotation as the ensuing one from Hooker, it is sure to be borne in upon us how very different is the world of nature as we recognize it to be today, as a result of the teachings of modern science, from nature and the world as Hooker and his contemporaries took it to be, in the days just prior to the scientific revolution of the 17th century.

And so to Hooker:

All things that are, have some operation not violent or casual. Neither doth anything ever begin to exercise the same, without some fore-conceived end for which it worketh. And the end which it worketh for is not obtained, unless the work be also fit to obtain it by. For unto every end, every operation will not serve. That which doth assign unto each thing the kind, that which doth moderate the force and power, that which doth appoint the form and power, that which doth appoint the form and measure of working, the same we term a *Law*....(*Of the Laws of Ecclesiastical Polity*, Book I, ch.2)

and, Hooker might have added, a natural law.

What strikes one immediately about such a conception of nature is that it is here taken to be radically teleological: no natural being or substance but what it has

“some fore-conceived end for which it worketh.” And indeed, looking back to our own immediately preceding section, is it not just such a teleological account of nature that would have to be presupposed if the Christian revolution in the humanities that we were advocating in the preceding section were ever to be brought off. For what is it that that “eye of reason” of the humanist may be expected to discern as being “visible in the things God has made”? Must it not be just what God has purposed for us as human beings? Or in slightly different language, must it not be just those foreconceived or natural ends of our lives as men and women that we need to find out about from the study of human nature. Otherwise, do we not run the danger of simply wrecking our lives, and bringing ruin and frustration upon ourselves, as a result of our not having informed ourselves of the nature of that work that we must do to attain our ends as human beings, or as a result of not having recognized those very natural laws that Hooker talks about, which do appoint the force and measure of that working upon which the fulfillment of our lives as human beings depends?

Surely, though, that sort of thing is all past and done with now. If the scientific revolution of the 17th century has done nothing else, it certainly has eliminated all traces of teleology from the natural world. Moreover, absent such a teleology from nature, and it must follow that the facts of nature can tell us nothing whatever of any values or norms or “oughts” in nature. Instead, the case turns out to be just the one that in the preceding section we chided our present-day humanists for accepting so uncritically, viz. that if there is any way at all by which norms or values can be got into nature, they have to be brought in entirely arbitrarily, being read into nature from the outside, or superimposed upon nature gratuitously, nature itself being through-and-through value-blind and virtue-blind.

And so in the light of this, who is to say that Father Healy and the rest of our contemporary humanists are guilty of accepting a largely preconceived and prejudiced view of nature in general and of human nature in particular, as if all they needed to do were to train “the eye of reason” on the visible things of nature that God has made, after which they would be able to see those differences between virtue and vice, between good and bad, inscribed directly upon the face of nature and upon the actions of men! No, it is now quite patently just the other way around, and the shoe is indeed on the other foot: for it is the modern scientist who now comes forward with seemingly quiet authoritative evidence, evidence supposedly based on the most painstaking empirical scrutiny of nature, to the effect that value distinctions just are not visible to the eye of reason (or to any other eye either for that matter) in the things that He has made. Nor does Aristotle, one could add, have the slightest ground for supposing that the very imitations of human actions that are produced in poetry and in the arts are such as to disclose unequivocally the line between virtue and vice.

Returning, then, to the view of nature suggested by Hooker, how can such a

view come off as anything but an anachronism? For did not Hooker hold that there was an intrinsic finality and purposeness that is characteristic of each of the various sorts of things in nature? “All things that are (he said) have some operation not violent or casual. Neither does anything ever begin to exercise the same without some fore-conceived end for which it worketh.” Does not poor Hooker simply reveal that he is trying to operate within an ancient Aristotelian scheme of nature, which regarded nature as being permeated and shot through with finality, as if all of the various natural kinds had their own characteristic finalities and τέλη—a seed, for example, which has its natural end in the full-grown plant; the animal embryo in the fully developed animal; yes, even inanimate things had their natural ends in terms of their so-called “natural places”—heavy bodies tending naturally toward the center of the universe, light bodies toward the periphery, etc.

Don’t all of us know that this entire Aristotelian way of looking at nature has been totally swept away by the advent of modern science? Was it not Descartes who is often credited with having been the first to grasp the new alternative view of nature? What Descartes did was to conceive of the natures of physical substances on an entirely different model. Aristotle took as his models of natural substances the sorts of everyday objects that we find in the world round about us—e.g. plants, animals, human beings, etc. Such things do seem clearly subject to their characteristic modes of change and development. Further, each of these characteristic modes of development has its characteristic finality as determined by its own proper τέλος. Or at least so it would appear to be, as judged from the standpoint of our everyday uncritical common sense.

Not so Descartes, however. For his models for physical things in nature were geometrical objects—circles, squares, triangles. Clearly, though, if one’s model for a physical object is something like a triangle, rather than something like an acorn or an embryo, then not only will there be no finality in nature, there will not be any change or development either. For a triangle, considered precisely as a geometrical object, is not subject to any kind of change or development. A triangle could never be considered to be potentially a circle or a square. There is not even any way in which a triangle could be thought of as being potentially a more perfect, or more full-fledged, or more fully developed, triangle than it is. Rather, for the geometer, a triangle is just itself, eternally and immutably; rather than being able to change into anything else, the only change possible for it would be to cease to be altogether and be succeeded by something else.

Very well, then, if the things of nature are conceived on the model of geometrical objects, it is little wonder that on the Cartesian view of nature—which became largely paradigmatic for modern science—, there could be no changes in nature, but only successions of events. Nor could there be any final causes either. And without material potentialities in things enabling them to be or become other and different, and with no final causes, it would seem that there could scarcely be effi-

cient causes either—in other words, no apparatus of any kind for either change or development within nature. And if there are no natural ends or purposes, it is hard to see how there could be any goods or values of any kind either. For the good of anything—at least on the Aristotelian view—is simply its natural perfection or fulfillment, toward which that thing is oriented as potency is to act. That is to say, the good of anything is simply that which by nature it is ordered to being, and which therefore that thing might be, and could be, and, in a somewhat analogous and extended sense, “ought” to be.

Accordingly, making a long story short, since the scientists of the 17th century opted for a Cartesian view of nature, it is little wonder that the nature of modern science should turn out to be a nature from which all goodness and value, all “ought’s” and “ought-not’s”, all right and wrong, all better and worse—yes, even all meaning and significance, at least in one sense of those terms—have been completely eliminated. Nor is it any wonder that a universe of this sort—a universe to which there was in principle no point or purpose of any kind—could scarcely be God’s universe. At least, it could not be God’s world in any such sense as would permit one to say of it that, so far as the Gentiles are concerned, although they “do not possess the law,” still “the light of nature” can disclose to them no less than the very precepts of the law in nature itself. In the natural world of modern science there just aren’t any precepts of this sort to be disclosed anywhere. Not only that, but the very idea that “all that may be known of God by men lies plain before their eyes [so that] His invisible attributes, that is to say, His everlasting power and deity, have been visible, ever since the world began, to the eye of reason, [in nature] and in the things He has made, [with the result that] they are without excuse”—this entire Christian and Pauline conception of nature turns out to be nothing if not just so much nonsense from the standpoint of modern natural science.

And so, going back to the question of a Christian liberal arts college, how could any such institution integrate into its curriculum anything like a “Christian chemistry,” or, indeed, a “Christian science,” of any shape, kind, or variety? Likewise, with respect to the poor, embattled theological and divinity schools of the present day, how could one ever expect them to be smitten with anything but a kind of anti-intellectualism, considering that in today’s world there does not seem to be any kind of intellectualism save only that which accepts the world of modern science at face value, and then assumes that all intellectual life must center around it?

Or again, what may we now say to that challenge which we originally set for ourselves? Just as we tried to show how a properly informed contemporary Christian humanism could lead our present-day humanists out of their Babylonian captivity of current humanistic scholarship, so also is there any way in which we can show how a properly “Christian science” could liberate both nature and science from the captivity of the modern scientific outlook?

Yes, I believe that there is a way—a way which in effect exploits some of the re-

cent findings of contemporary philosophers of science, and which, by giving a particular twist or interpretation to these findings, can point the way to a rescue of a truly viable Christian science. Already we have intimated what the principal stumbling block is to any such restoration of a view of nature in which "all that may be known of God by men would be plain before their eyes." That stumbling block is that any such view of nature as St. Paul presumably had in mind—and indeed, any account of nature that would disclose nature as being nothing less than God's own universe—have long since been completely discredited by modern science. And what is so decisive about that discreditation is that it is precisely the evidence of empirical observation and experiment in modern natural science that are supposed to have shown Descartes to be right in his denial of any natural teleology, and Aristotle wrong in his affirmation of it. And how can one go counter to the facts of experience?

But it is just here that recent developments in the philosophy of science become of such unexpected significance for our purposes. For what emerges from recent investigations is that no longer is one able to say that it was no less than the facts themselves, as reflected in the empirical evidence, that was the decisive factor in the victory of Descartes over Aristotle (if we might put it in these somewhat oversimplified terms). Nor can one say that the teleological conception of nature that was at one time so fashionable has now been disproved, and the modern scientific conception established in its stead—as if this latter were now to be regarded as an undeniable matter of fact.

No, for ever since Sir Karl Popper it has become increasingly fashionable to suppose that the basic method of modern natural science is not a method of induction, based on empirical observation and experiment, and concluding to what the true laws of nature really are; but rather what Popper chose to call the hypothetico-deductive method. Thus it was Popper's contention that while in a sense one might properly say that certain low-level scientific laws could indeed be considered to have been established by induction—e.g. that water boils at 100°C, or that silver melts at 960.5°C—still, when it comes to the great over-arching theories and hypotheses of science, these are not established by induction at all. For example, it is simply ridiculous to suppose that Kepler's hypothesis as to the elliptical orbits of the planets was established by Kepler's first observing some of the planets to move in elliptical orbits, and then generalizing that all of the planets must move in that way. Or consider Newton's law of motion that a body not acted upon by an external force will continue indefinitely in motion or at rest; this law was definitely not established by observing a number of bodies, that were not acted upon by any external forces, to be continuing indefinitely in motion or at rest, and then generalizing from this to all bodies. In these cases there were no inductions from experience or observation at all—no way!

But if scientific theories and hypotheses are not derived from empirical observa-

tions or by induction, then how does the scientist come by his hypotheses? Popper's answer is that the scientist, so far from deriving them from the available evidence, simply makes them up, or dreams them up, as it were, out of his own head. Indeed, the devising of hypotheses by scientists, Popper says, is comparable to acts of creative genius, such as occur in the fine arts. Hence scientific theories and hypotheses are no more to be thought of as being based on demonstrative evidence, than is the thinking up of plots for novels, or of themes for symphonies. No, these are all in the nature of free creations of the mind.

Still, the question presses: how is it, then, that an hypothesis comes to be accepted? After all, it is one thing to say that a scientific hypothesis is a sheer invention, or a free creation of the mind; but it is another thing to say that a given hypothesis is one to be accepted as being true. There is no reason why one may not dream up fictions and inventions *ad infinitum*; but this by no means suffices to tell us which ones are to be taken as true. To this end, it used to be said that before any hypothesis could be taken to be true, it would need to be verified by experiment and observation; or if not verified, then at least not falsified.

Alas, though, in recent years the processes alike of verification of hypotheses, as well as of their possible falsification, have come to be seriously discredited. Sir Karl Popper himself it was who succeeded in discrediting any and all processes of a supposed verification of hypotheses in experience, simply on the ground that any such process commits a simple logical fallacy. Moreover, coming after Popper, and even to Popper's own considerable dismay, philosophers of science like Thomas Kuhn have suggested that the so-called process of falsification of hypotheses was not to be relied on either. It was not that falsification involved any logical fallacy; it was just that such falsification could not really be carried out decisively or definitively in practice.

Very well, then, but if the so-called hypothetico-deductive method of scientific investigation has, ever since Popper, come to be recognized as basically *the* method of discovery in modern science, and yet if at the same time such a method of investigation has now been found itself to be in principle incompetent to explain why scientific hypotheses should ever be accepted as true, then what to do? The implication would appear to be that the whole of modern science is erected on very shaky foundations indeed. Or more specifically, and in terms of our particular concerns in this discussion, it has now begun to emerge that that entire non-teleological conception of nature, which has been the stock in trade of modern natural science throughout the whole of its history—this very conception of nature can no longer be regarded as having been in any wise “proved” or “established.” Not only can it not purport to be a description of nature as it really is; but even its unequivocal superiority over competing world-views cannot be definitively established. Besides, it has even been remarked that the only reason why the modern scientific and non-teleological view of nature is to be preferred over the old tele-

ological view is that the former seems to “work better,” or to be “easier to manipulate,” or to be “more convenient” for purposes of prediction and control of events in nature, than does the view of nature to which Aristotle and Hooker and St. Paul were partial.

In other words, rather than being able to consider that the modern scientific view of the universe is the true one, whereas the older view of nature is simply false, it is rather the case that no more than pragmatic considerations tip the scales in favor of the former. Quine would appear to make this point even somewhat puckishly, asking why it is that he, Quine, would prefer to accept a universe made up of physical objects governed by ordinary physical laws, rather than a universe presided over by the Greek gods.

As an empiricist I continue to think of the conceptual scheme of science as a tool, ultimately, for predicting future experience in the light of past experience. Physical objects are conceptually imported into the situation as convenient intermediaries—not by definition in terms of experience, but simply as irreducible posits comparable, epistemologically, to the gods of Homer. For my part I do, qua lay physicist, believe in physical objects and not in Homer’s gods; and I consider it a scientific error to believe otherwise. But in point of epistemological footing the physical objects and the gods differ only in degree and not in kind. Both sorts of entities enter our conception only as cultural posits. The myth of physical objects is superior to most in that it has proved more efficacious than other myths as a device for working a manageable structure into the flux of experience. (*From a Logical Point of View*, p.44.)

It is all but a matter of posit against posit, and myth against myth!

Moreover, if a scientific hypothesis or theory is never accepted on the grounds of any real evidence of its truth, but only on the ground of purely pragmatic considerations, does it not begin to appear that this newly popular way of understanding science comes around to a view of knowledge that is rather ominously reminiscent of the theory that was made celebrated by Immanuel Kant in the late 18th century? For Kant, despairing of our ever being able, as he puts it, to bring our ideas and theories into conformity with the facts, suggested instead that we might try to bring the facts into conformity with our ideas and theories. And how is this possible? Well, if we but recognize that our ideas and theories and views of reality need not be taken, and should not be taken, as being in any way descriptions of the facts as these really are in themselves, but only as our ways of viewing the facts, then it will turn out that the facts as we know them must necessarily conform to our modes of viewing them. As to what the facts are like just in themselves—well, that is something that we just don’t know about and can’t know about, since the facts as we know them must always be seen through the medium of our particular way of look-

ing at the facts. To use but a crude example, if I wear jaundiced glasses, then everything that I see will appear to me to be yellow. Of course, the things that I thus see are not necessarily yellow in themselves; and yet never will I be able to see them as anything other than yellow, so long as I don't take off the glasses!

Consider, then, what the consequences are of this "new view of science," once it comes to be closely associated with the Kantian view of knowledge. Clearly, the consequence will be that science, supposing that it relies on the Popperian method of hypothesis, does not and cannot tell us what the world of nature is really like in itself. Instead, science can do no more than inform us of what nature and the world of nature *appear* to be like, when seen through the medium of the particular scientific theory or hypothesis that we happen to be using at the time.

Accordingly, recalling the Cartesian view of nature as completely mathematized and non-teleological, we now find ourselves constrained to recognize that such a Cartesian view of nature does not tell us the way nature really is at all. No, it is merely a way of looking at nature, or a kind of conceptual construct that we ourselves have imposed upon nature from the outside, and in terms of which we now come to view both nature and all of the events that take place within nature. Once Descartes' account of nature comes to be treated as but a kind of scientific hypothesis, then it turns out to be no more than a device for making nature appear to us a certain way—i. e. as entirely devoid of any final causes or of any purposive or developmental change. But just because that is the way nature appears to us to be, once we put on Cartesian glasses, it does not follow that there really are no natural ends or final causes in nature. No, it's just that the Cartesian hypothesis makes things appear that way to us, rather than otherwise.

With this, though, do we not suddenly find ourselves possessed of that very means that we have so long been searching for, whereby as Christian scientists and philosophers we might now be able to rescue science—or at least nature—from the hands of the modern scientists? For if the modern scientists have in effect, ever since the 17th century, taken nature captive, so to speak, and if the result has been that the order of nature is now such as can scarcely be reckoned as being God's order at all, then why don't we, by utilizing the new developments in the philosophy of science, move with all dispatch to take that very scientific captivity of nature captive! And to this end, what more need we do than simply point out that the scientists' non-teleological account of nature, however justified it may be pragmatically, in no wise can claim to be an account of the way nature really is in itself? In fact, judged exclusively in terms of this latter standard, it is not one whit superior to the older Aristotelian teleological account which it displaced.

Besides, when we again turn our attention directly to that ancient teleological view of nature, it is both interesting and significant that that view of nature, by the very logic of its own argument, does not put itself forward as being no more than a mere rival hypothesis as over against other hypotheses. No, it claims to be an ac-

count of nature as it really is.

Moreover, the way it is able to make good on such a claim is by simply remarking that the method which Aristotle relied upon for establishing the principles of his physics was not any hypothetico-deductive method in the manner of modern science at all. No, for it was not by any method of hypothesis that Aristotle determined (1) that real changes do go on in nature; (2) that all such changes must involve something that changes; and a something that must needs change from something to something else; in other words, (3) that the things or substances of nature are possessed of potentialities; and (4) that these potentialities are ordered to their actualities as to their natural ends and final causes; (5) natural ends are nothing if not the sources and contexts of the goods or values that are to be found over-all in nature; and (6) that in the light of the natural end, and hence of the good that is proper to human beings in their lives according to the dictates of nature. Clearly in all of these contentions, the Aristotelian philosopher is not propounding any mere hypothesis from the standpoint of which nature may be viewed. Instead, he is insisting that in each case it is simply evident that that is the way nature really is. Thus just to repeat again, how is it that one knows—you or I or anyone else—that change is something real, and that changes simply do take place? Is not this simply a fact that is evident to experience? Likewise, that nothing could possibly undergo change without being able to become different, and further that in thus becoming different, that which thus changes must change from having been one thing to being something else—surely, these are all things that are nothing if not simply evident to our human intelligence.

With this, then, can we not now begin to see our way clear, if not as Christian scientists, then surely as Christian philosophers, to leading captivity captive, so far as that nature and natural order are concerned, which the scientists have for so many years simply arrogated to themselves, as being somehow their exclusive preserve? For of course, there is nothing wrong with scientists resorting to the use of a hypothetico-deductive method—nor is there anything wrong with the scientists' taking it to be their peculiar and proper enterprise to make the realities of the natural world conform to their own hypotheses and world-views, rather than to worry about having to bring their ideas and theories and hypotheses into conformity with the facts. No, all of this is well and good, there being no doubt that a reliance upon the hypothetico-deductive method certainly does pay off in terms of what we can properly call modern technology, as well as of that incredible control over nature which the modern technologist and scientist have been able to achieve.

At the same time, it is of the utmost importance that both the scientist and everyone else be perfectly clear as to what our present-day scientists are about in this sort of undertaking, as well as what the import is of the scientists' now generally admitted reliance upon the hypothetico-deductive method. For from henceforth what needs always and ever to be recognized is that the scientists' non-tele-

ological account of nature is not an account of nature as it really is, but only a purely factitious and even, in a sense, fictitious, world-view of nature that enables the scientist the better to achieve his technological mastery of nature. Once this is clear, the way is then open for us once more, in our capacity as philosophers, or even as Christian scientists in a more old-fashioned sense of the term “scientist,” to bring ourselves back again to a properly Christian knowledge and understanding of nature, thus redeeming that older order of nature as being teleological in character, simply on the basis of the empirical evidence, and thereby making it possible to affirm indeed that the earth is truly the Lord’s, and the fulness thereof! Not only that, but we can even assert with confidence once again that “all that may be known of God by men lies plain before our eyes, it being God Himself who has disclosed it to us.” Yes, so far as we ourselves, or anyone else, should fail to acknowledge what God Himself has thus disclosed, then perhaps we are indeed “without excuse”!

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