The Church and Its Responsibility to Foster Knowledge

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Father Greeley has given an insightful and eloquent appeal for reflection upon things Catholic—for a retrieval within the Catholic universities of the richness of the Catholic symbolic experience. I can only second his appeal. But the task that Alice Gallin and Tim O'Meara have assigned me bears upon a different question, one that Mr. O'Meara framed in this manner: Should the church foster learning that is on the face of it secular? More specifically, should the church encourage, yes, even nurture as part of its own mission research into the physical and biological sciences? This question could obviously be extended further—into the social sciences, the professions of law, business, and medicine, even the humanities—but 45 minutes demands that I limit my compass. Father Greeley has argued the thesis that the Catholic university must foster things Catholic. Mr. O'Meara's question comes almost by way of complementary counterpoint: Should the church as such be vitally engaged in the knowledge that is neither intrinsically Catholic nor immediately religious?

I. THE SPECIFICATION OF THE QUESTION

Let me spend some initial moments in specifying this question. Mr. O'Meara has not asked if the Catholic university precisely as a university should foster the physical and biological sciences. The answer to such a question would be obvious—if the institution wishes to be a university. Rather the issue is whether the church, precisely as such, should foster these sciences. Is there something about the nature and mission of the Christian community that underscores those obligations incumbent upon the university as such, something about the church which uniquely supports the common responsibilities of higher education and which would give added meaning and warrant to the remarkable proposition of the present pope that the church needs the university.1

But is the answer to such a question not a banality? Do not the dogmatic commitments of the church emphasize that creation is a gift? Does this sense of gift not mean that we should pay attention—even in the most disciplined and serious manner—to what God has entrusted to us?2 Has not the church insisted since the attack of Manichaeism that the world is good and that matter and history are the stuff of salvation? Does not creation give obvious importance and even a religious dimension to the work of science? And has all of this not been repeated a thousand times!

Let me counter with agreement and disagreement. There is something generically true about such a response—but that constitutes its fatal flaw and the easy deceptiveness about the response. It offers us a comfortable journey down what R.S. Crane called "the high priori road"; i.e., assuming the relevance and authority of theoretic doctrines prior to the examination of concrete issues and evidence.3 It does explain why Christianity has exhibited a pervasive sympathy for nature and for the disciplines with which it is explored. But this explanation remains at a level so abstract that it does not touch our actual issues as they have emerged in the crises within history, nor does it reach the level of obligation—"should the church"—at which our question has been posed. To be satisfied with it is to be informed by neither recent history nor current concrete Catholic practice.

Can any Catholic recall without blushing, for example, the papal brief on Darwinism: "A system," wrote Pius IX, "which is repugnant at once to history, to the tradition of all peoples, to exact science, to observed facts, and even to reason herself would seem to need no refutation, did not alienation from God and the leaning to materialism, due to depravity, eagerly seek support in all this tissue of fables."4 Does not the same shame rise when one recalls that the works of Copernicus and Galileo remained on the Index of Forbidden Books into the nineteenth century? Can we not remember that the volumes of Teilhard de Chardin were ordered removed from the shelves of Catholic libraries within our own lifetime? All of this is common knowledge, so common that it undermines something of the credibility of the church and feeds the extravagant myth of an inherent antagonism between science and religion. Each year

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freshmen courses in Western Civilization retrace something of this path laid by some religious leadership. But not just freshmen! Are Catholic university presidents unaware that at the very end of the last century, the first president of Cornell University, Andrew Dickson White [1832-1918], compiled case after case of such repression in his massive 1896 work *A History of the Warfare of Science with Theology in Christendom*?

Science in abstracto and science in the day-by-day—the church has a long history of positive affirmations ranging from benignity to significant assist; but the great revolutionary changes in science have sometimes met misunderstanding, resistance, and even repression—not just by church leaders, but by theologians and manualists. Perhaps the key here is “misunderstanding.” These moments were often the result not of viciousness or politics—though this could not be extended to the Galileo fiasco—but to an intractable narrowness, an ignorant misreading, a positive paranoia before novelties which were equated with threat: “Nihil innovetur nisi quod traditum est,” was easily extended to the constitution of the world and the nature of its origins. But here the paradox becomes more acute. The heliocentric universe was condemned by some theologians and ecclesiastic authorities not because they failed to understand Copernicus, Kepler or Newton, but because they failed to understand the Book of Judges or the accommodation principles of Thomas Aquinas. Fear arose about evolution because ecclesiastics like Henry Edward Cardinal Manning judged it “a brutal philosophy—to wit, there is no God, and the ape is our Adam.” It was often a decadent theology and barren philosophy that constructed these artificial antinomies or which failed to mediate between the gospel and the developing culture. Here, as often as not, the issue lay not so much with the new sciences as with a theologically sound understanding of the basic patrimony of the church that alone could make novelties welcome and mediation possible.

So the question—if it is not to be a banality—can be honed more precisely. Should the church, as such, foster science, science even at its most inventive moments, science when its conclusions seem raw or when it opens a frontier that seems to contradict what has been accepted even as dogma, when a synthesis has not been made between faith and science in this new area of inquiry? It is not simply obvious that the church should foster such knowledge. Nor is it simply regressive to see it undermining the belief of ordinary Catholics. In pursuit of its responsibilities, church authority has looked at the concrete effects of such knowledge and sometimes inhibited such research and teaching as “confusing the faithful.”

But one need not become unfair or hysterical over this history. The church has contributed enough encouragement to science in general during these centuries, and the caution that ecclesiastics have exhibited can find its secular counterparts with the efforts of American universities to deny the dangerous doctrines of Professor Shockley a hearing or with the unspoken demand for politically correct opinions, or with the establishment as departmental orthodoxies a particular version of analytic philosophy or literary criticism, or with the prolonged unwillingness even to entertain the original theories of Alfred Wegener about plate tectonics. The problem is a profoundly human one, not exclusively an ecclesial one. But our ecclesial history does furnish added weight to our question: Should the church as such encourage and foster all genuine and ethical scientific inquiry no matter where it seems to be tending? I say “ethical” deliberately because I am concerned in these remarks with dogmatic compatibility, not with the more technological uses or experimental inquiries of science that raise serious questions of morality and ethics.

But our question is sharpened still further if we consider the present attacks on science within American higher education, attacks that issue from the challenge of deconstructionism, that are mounted in the name of egalitarian leveling of all “logocentric hierarchies,” that are embodied in what is present and what is omitted in the current university conflicts over a canon of appropriate texts or the content of a core curriculum. All of this makes Mr. O’Meara’s question more real: Why should the church, even before pockets of academic indifference or hostility, encourage and support a passion for scientific inquiry?

II. THESIS 1

As a response, I should like to advance two theses: (1) In one way or another, contemporary scientific inquiry raises serious questions about ultimacies and so constitutes part of the present religious problematic; (2) The scientific passion for the truth about the world is a part of that general passion for truth that makes faith—any vital faith—possible. One of my theses deals with science as a body of knowledge, as a content; the other deals with it as a method or procedure and a habit of mind. Let me explore each of them in the time that has been allotted to me.

Over the past 30 years, the relationship between the physical sciences and the religious dimensions of life has radically altered. One can better assess this sea-change if it is seen in contrast with the intellectual settlements between science and religion since the dawn of modernity. Drawing these intellectual covenants in very broad brush strokes, I would suggest that these centuries have seen four significantly different relationships: subsumption, separation or isolation, alienation, and correlation. Let me say a shamefully brief paragraph to illustrate each.

*Subsumption*: In the 17th and 18th centuries, natural philosophy or physics or experimental science was sub-
sumed as the foundation for religion, most specifically for the assertion of the existence of God. Certainly this was the interest that drove much of Isaac Newton, but one can also find it at the concerns of such scientific giants as Robert Boyle and John Ray and in the resultant physicotheologies of William Derham and William Paley. The evidence from physics became those of geometrical design and functional subservience, and the mathematics embedded in the universe pointed to a universal geometry. Foundational religious reflection often looked to science for its warrant to assert its fundamental assertions about God.

Separation: Under Laplace and Lagrange, physics and astronomy freed themselves from furnishing the foundations for religious assertions. William Herschel recorded the conversation between Napoleon, then first consul of France, with M. de Laplace on August 8, 1802. The subject was the sidereal heavens, and Napoleon asked in a tone of admiration: "And who is the author of all of this?" Laplace maintained that a series of natural causes could account for this phenomenon. "This, the First Consul rather opposed." The story has been simplified by having Laplace respond to Napoleon with the celebrated retort: "I have no need of that hypothesis," and then maintaining that Laplace’s astronomy was atheistic. That interpretation is false. Laplace is simply saying, in opposition to Newton’s *System of the World* and to the “Queries” at the end of Newton’s *Optics*, that science was self-contained, that it would not furnish the basis for religion. The new settlement was to be between two distinct, isolated, and methodologically indifferent fields.

Alienation: In the 19th century, the evolutionary theories of Darwin and Wallace were read as eliminating both the classic argument from design as well as a special place for human consciousness, a consciousness that both philosophers and theologians had made integral for the establishment of the existence of God. Many religious leaders and scientists read this development as a fundamental change in the relationship between science and religion; i.e., as an attack and contradiction. With such rare exceptions as John Henry Newman, they understood it basically as threat. Cardinal Wiseman received permission from the Holy See to found an academy, one to which he summoned the faithful of England in these words: "Now it is for the Church which alone possesses divine certainty and divine discernment, to place itself at once in the front of a movement which threatens even the fragmentary remains of Christian belief in England." In his Terry Lectures, John Dewey in the United States announced that religious belief with any supernatural content could not survive the surge in the empirical sciences. During the important Solvay Conference of 1927, Dirac and Pauli expressed amazement to Heisenberg that Einstein could evince any respect for religious consciousness. Our own generations grew up in that atmosphere of hostility and alienation and—because of our ignorance of history—were indoctrinated easily to talk about the “ancient” battle between science and religious.

But within our lifetime, this settlement has begun to give way before an unexpected development. Increasingly, scientists such as P.W. Atkins, Robert K. Adair, and Harald Fritzsch find themselves in basic agreement with the theoretical physicist, Paul W. Davies: "Right or wrong, the fact that science has actually advanced to the point where what were formerly religious questions can be seriously tackled itself indicates the far-reaching consequences of the new physics.” In fact, Davies claims quite flatly: "It may seem bizarre, but in my opinion, science offers a surer path to God than religion." This is no place to survey the evidence that Davies and others mount, but this must be said. The way the contemporary world reveals itself in its fundamental constitution and origins poses or suggests enormous questions of ultimacy, even if (pace Davies) it does not answer them. This is neither unprecedented nor extraordinary; what is extraordinary is the growing recognition that this is the case. Any human situation, explored with careful discipline and examined in depth, raises questions of ultimacy for which the methodology at hand is unequipped. This can occur in two ways: First, it discloses problems about its own foundations, about the validity of its own presuppositions, the reference claims that can be made for its axiomatic sets, its postulates, and finally its relationship to other kinds of knowledge. Second, a thorough scientific inquiry may well establish conclusions which themselves raise further questions or hint toward further knowledge which its own methodology cannot responsibly treat. Such an inquiry may suggest possibilities about the universe which it cannot responsibly explore. It has classically been the function of metaphysics to deal with the first of these sets of problems; i.e., to inquire into the foundations of science and of mathematics and into the relationship of one area of knowledge with another. But is it the second inevitable development of scientific knowledge, the questions about ultimacy and about receding horizons that it raises, which inevitably involves the interest of religion. For religion, or the disciplined reflection upon religious experience that we can call theology, is essentially about the ultimacies, the absolutes that impinge upon human existence and that elicit a possibility of the world embodying mysteriously the personal interchange between the divine and human.

Let me give one example: If one looks at the fundamental constants of nature, one comes to see the universe as breath-takingly, unimaginably finely tuned. For example, as Stephen Hawking has written, if “the rate of expansion one second after the Big Bang had been smaller by even one part in a hundred thousand million million, it (the material universe) would have collapsed before it reached its present size.” If, on the other hand, the rate of expansion had been ever so slightly
greater, the expansion would have been too great for stars and planets to form. The universe would have been impossible.\(^\text{10}\) That fine-tuning can be found in such fundamentals as the mass of the electron, the strength of the strong nuclear force, the relationship between matter and anti-matter. This number of such "remarkable coincidences" can admittedly be advanced indefinitely.

Some are using these data, as did Boyle and Newton to establish an argument for the existence of God. This seems to me misguided. But what I do think is legitimate—not to say hypnotizing—is that at the very minimum they raise the question about purpose and personality in the universe. Such evidence gives a new basis, a new plausibility to the question: Is there then mind and purpose, even a care for human beings, at the basis of our existence?

Now the reaction to this kind of knowledge or recognition among theologians and thinkers within the church has been threefold. The vast majority, knowing nothing about science, wary, suspicious or at best respecting it at a great remove, are ignorant of these developments or of their enormous importance in our understanding of the world. Consequently, they cannot appropriate the character or the contours of this problematic situation that contemporary culture is framing for religious inquiry and responses. The second, enthusiastic about this new knowledge, join those scientists who enlist these data to ground religious affirmations about the existence and nature of God. This seems to me a categorical error, one that mingles different kinds of knowledge and repeats the errors of the seventeenth century. But the third reaction has been to treat this new knowledge in one field as constituting a set of problems, questions leveled at religion. The cosmological constants—the emergence of life, the appearance of consciousness, expansive if not directional evolution—raise the possibility of profound purpose in this universe of some eighteen billion years.

This raises in a very different way the question of God—in a new and newly very plausible way. Does not the church which talks about God and Christ, even the cosmic Christ, about providence and salvation, have a way of taking up these issues, transposing them into properly theological questions and in terms of theological methodologies and evidence dealing with these in a way that the physical sciences cannot? It is consequent upon the mission of the church that it foster, encourage, and be in vital contact with scientific inquiry not because science will answer the questions of religion, but because it poses some of them.

For in scientific inquiry, the world progressively discloses itself. Theological research, investigation, and instruction will only be as vital as the questions they address. These questions will possess vitality to the degree that they emerge out of life. Science easily constitutes one of the greatest and most continual efforts of the human intellect to push to its ultimate what we know about our world and about our lives. The church can and must encourage the advance of this knowledge, confident that the reach of the mind will extend into a profoundly religious dimension—that questions will be elicted that the science or the discipline itself cannot resolve. For science in so many different ways mediates the world to religious consciousness. As that world becomes progressively engaged—whether in molecular biology or astrophysics or cosmology or quantum mechanics, it will raise issues not merely about the social and ethical implications of what is discovered—matters of enormous moral interest to the church—but about the meaning or purpose in the universe, the pervasiveness of matter, the eschatological destiny of all that we know. The church must foster science as a body of knowledge because it must engage the religious dimensions of this self-disclosure of the world. For such a disclosure through its questions evokes new insights into the significance of the gospel and the concrete meaning of the One in whom and through whom and for whom all things were made.\(^\text{11}\)

We advance in our understanding of the unique Christological significance of salvation as we understand the world to which Christ is the immeasurable response—as He is seen to respond to the questions that the physical universe and human life pose about existence and meaning.

Understood in this way, science forms part of the problematic situation for contemporary theology. If the church wants the mystery that it bears taken seriously and if it wants to come to deeper understanding of this mystery itself, then the church must foster all those human engagements in which ultimate questions are uncovered in depth and presented with urgency and which cry out for a religious transposition and theological reflection. If, on the other hand, the church ignores these developments—and how many members of CTSA or of your theology departments have anything that could qualify as scientific literacy?—then theology loses the vitality that this contact with culture can uniquely offer. One can advance this first thesis slightly further: If one really understands only the answer itself when one has grasped the question—if the response becomes clear only as one sees something of what is its fundamental question, then one can ask the church and its theologians how much they understand about the gospel (i.e., the recapitulation of all things in Christ) when they do not see or understand so much of the world to which it is response and good news.

That is the first thesis I wish to defend: The church must encourage or foster science because science done with integrity constitutes something of the problematic situation which confronts the reflection, yes, even the self-understanding of the church.
May I now use the time I still have available to advance a second thesis. Here I do not intend to deal with science as an expanding body of knowledge, but as a habit of mind issuing in a methodologically self-conscious, exact and demanding exploration of the world in order to determine what is true about it. I take it that this is the purpose of science, no matter how different and no matter how instrumental may be its best available conclusions. I take it that this is where the almost hypnotic appeal of the scientific enterprise lies, whether its effort be bent on solving problems of tensor calculus or building a multibillion-dollar superconducting supercollider, whether it be purely theoretic in its interests in subatomic physics or technologically oriented towards global warming and space stations. There can be an addictive appeal in learning what is the case, what is the solution to a problem, what is the truth about things. This dedication constitutes the scientific mind at its finest. Not just the scientific mind, of course, but the scientific habit is one generic form of this dedication, one of its strongest forms in contemporary culture.

I am as aware as you of the vanity and the vicious competition, of the ego-investments and financial greed that can and has entered into this world. But there is at its best—a best which the church must encourage and reverence—there is a grandeur, a purity of heart, a self-transcendence that the scientific mind calls for, a profound orientation towards the truth. In this orientation, it seems to me, one encounters the absolute; i.e., that which is directive and normative of all life and is itself not governed or subject or relative or dependent upon anything else. This may not necessarily emerge in the conclusions of the work of the scientist, but the decencies of his or her calling dictate that it be always operative in the uncompromising claim that truth makes upon the direction that this work takes. Truth is both the horizon towards which the scientist moves and the imperative that directs her or his choices. The scientist, as a scientist, is called upon to explore what is the case in as imaginative and as disciplined a form as possible and to tell the truth that his research discloses with a disciplined exactitude.

Now, in order to focus my argument at this point, I should like to direct your attention to what may seem a very dry and inconsequential proposition in Thomistic theology. It is the very first issue that Aquinas raises when he deals with faith. He asks this question: What is the formal object of faith? In other words, what is the indispensable aspect under which you must see what you are asked to believe, that aspect by which something becomes credible and which entails the inescapable commitment for making an act of faith? And he answers this very simply. The formal object of faith is the primary, the absolute truth [II-II.1.1]. Christian faith for Aquinas is not a blind leap in the dark; it is not opposed to cognoscitive rigor, nor does it constitute a voluntaristic sacrificium intellectus. “One would not believe if she/he did not see that these things were to be believed” [II-II.1.4. ad 2]. You believe something because you believe someone; and you believe someone because you believe that he/she speaks the truth. The grace of faith, he says very simply, “makes one see the things that are believed” [II-II.1.4. ad 3]. The content of your faith and the source of your faith are conditioned by this absolute or primary commitment—an uncompromising, non-negotiable commitment to the truth: “nothing can fall under faith except so far as it stands under the first truth” [II-I.1.3]. It is in this way that faith does not contradict intellectual activity, but “brings understanding to its completion” [II-II.1.3. ad 1]. Only this commitment to truth can make authentic faith possible: both the commitment of God to its revelation and the surrender of a human being to its absolute primacy. 12

I suggest that under that seemingly dry proposition of Aquinas he is proposing an understanding of Catholic faith that makes the church’s encouragement of zealous, self-sacrificing science a matter of crucial moment. To evoke authentic faith, the church must foster in every possible way an uncompromising commitment to the truth, in whatever way it discloses itself. The Christian community must give itself to build a world in which truth is explored, disclosed, and spoken. The church itself must be understood—or come to be more vitally—the place where truth is reverenced and demanded and spoken. For this openness to the real—whether one of physical nature or of mathematical coherence or of biological and human nature—this acceptance of what is simply because it is is a fundamental condition for the possibility of Christian faith. As this disposition dominates the scientific mind—and the church must encourage it to be faithful to itself—as it governs and directs a person’s entire career, as it permeates teaching and drives research through difficult, discouraging and dogged moments, as it works against the vices and the narrowness that make for dishonesty and pretense, as it counters a defensive unwillingness to face up to the way things are, such a disposition develops in the mind those habits which are essential if faith is to be authentic. For the finest reaches of the scientific mind lie in an undeviating determination towards the truth; and from the time of Paul it has been said that the failure in faith is basically a “failure to love the truth and be saved” [2 Thes 2:10].

It is of vital importance that the church encourage, demand, propose, or foster every serious engagement by which human dedication and its consequent effort engage itself with an enterprise whose purpose is truth. And what must the church ask at those crisis-moments when scientific inquiry and dogmatic assertion seem to clash, when they even appear to contradict? That both continue their inquiries or experiments, their discussions and reconsideration without impediment or
mutual condemnation, as Cardinal Newman wrote, "with full faith in the consistency of that multiform truth, which they share between them, in a generous confidence that they will be ultimately consistent, one and all, in their combined results though there may be momentary collisions, awkward appearances and many forebodings and prophecies of contrariety."

In my opinion, one could argue even further that this costly love for truth is not only a disposition for faith but as it becomes absolute and universal constitutes that universal surrender which Karl Rahner has signaled as transcendental faith: the obedient acceptance of God revealing Himself as the all-guiding, all-governing truth, permeating all things, giving meaning and urgency to its smallest participation and confronting one continually in a relationship of absolute closeness and summons. The day-by-day honest drudgery of science could well constitute the categorical mediation of such transcendental revelation and its responding faith.  

IV. CONCLUSION

I have attempted to answer Tim O’Meara’s question with the two theses that these pages have only been able to outline. Each of them needs more development and nuance, but the basic point is this: The church must encourage scientific inquiry as it must care for the sources of its own vitality. It must both foster an undeviating determination for the truth wherever this occurs as the only matrix out of which Christian faith can emerge, and it must further those disciplined inquiries whose natural dynamism develops into those profound questions or suggestions about ultimacy that constitute the religious dimensions of life and reach towards the unspeakable mystery that is God.


2. See the remarks of Ian G. Barbour, Issues in Science and Religion (Engwood Cliffs, New Jersey: Prentice-Hall, 1966), 44-48. The matter can be framed through a simple parable: If a young man loves a woman, he may show his love by giving her a ring. Now there are many things which the woman can do. The most vicious would be to take the ring and forget the love that is behind it. That would be the most vicious—but it would not be the most stupid. The most stupid thing she could do would be to think that the ring and the man were in competition—that it was not a sacrament of his love but its competition—and that somehow or other she could show his love for him be denigrating the ring: “What a lousy piece of metal—only eight caret diamond—how little worth it has compared with you, honey!” One does not enhance one’s relationship with God by despising or ignoring the gifts that God has given as a pledge of an eternal love.


6. John Searle in his recent “The Battle over the University,” noted the general lack of a coherent theory of undergraduate education and spoke with amazement of one of the most recent and best attempts to build such a theory, The Voice of Liberal Learning by the English philosopher Michael Oakeshott:

   "Perhaps the biggest single weakness of his conception of education is in the peripheral status it assigns to the natural sciences. The natural sciences do not fit his model, because, for the most part, the world of the natural sciences is not a world of meanings. It is a world of things; it is a world of entities, such a s molecules or quarks, and forces, such as gravitational attraction or electromagnetic radiation. . . . But like it or not, the natural sciences are perhaps our greatest single intellectual achievement as human beings, and any education that neglects this fact is to that extent defective.”

   - The New York Review of Books (December 6, 1990), xxxvii:19, 41.


8. See Michael J. Buckley, SJ, “Religion and Science: Paul Davies and John Paul II,” Theological Studies 51:2 (June 1990), 311-312.


11. Colossians 1:16-17

12. St. Thomas is not alone in giving this sacred, religious character to such a commitment. William James, in defending however successfully, his description of personal religion insisted that "a man's religion might thus be identified with his attitude, whatever it might be, towards what he felt to be the primal truth." [William James, The Varieties of Religious Experience (New York: Penguin, 1987 - reprinted from the standard edition of Longmans, Green, and Co., 1902), chapter ii, 34.] In her autobiography, Simone Weil summarizes what gave meaning to her life: "It seems to me certain, and I still think so today, that one can never wrestle enough with God if one does so out of pure regard for the truth. Christ likes us to prefer truth to him because, before being Christ, he is truth. If one turns aside from him to go toward the truth, one will not go far before falling into his arms." [Simone Weil, "Spirituai Autobiography," Waiting for God (New York: Harper and Row, 1973), 69.]
