

Religion and Science: Must There be Conflict

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The following is a re-print from the March, 1983 ITEST publication, Science-Faith conflict?. What Fr. Wallace proposes should be considered. There seems to be a real opportunity for partnership with science in the religious communities. Scientists (some of whom still propagate the old conflict) should be made aware of this.



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To one inquiring whether religion and science must be in conflict, a sobering reply might be: propose an alternative. If not conflict, or Andrew Dickson White's "warfare," between religion and science, then how else characterize their ongoing relationship? It is that problem with which we shall be largely concerned here. Simple enough it is to deny the necessity of warfare, for that is the answer we expect and all would like to hear. Yet to do so is to take on a difficult task: to go against the historical record and claim that the skirmishes of the past were simple misunderstandings, or to propose that the future, notwithstanding the ominous clouds gathering in genetic manipulation and other areas, will usher in an era of perpetual peace. Most people are neither scientists nor theologians, and yet I suspect they are sufficiently acquainted with both to realize that there is no easy answer here. If not warfare or its absence, it will be difficult to define a middle ground that can satisfy our reasonable expectations for the twenty-first century.

Before getting into that, let me dispose quickly of another reply to the question "Must there be conflict?" --- the forthright but irreverent answer, "Why not?" After all science is concerned with man's way of looking at things, and religion with God's way of looking at things, and we all know that God's ways are not our ways. Centuries ago Tertullian asked the pointed question, "What has Athens to do with Jerusalem?" meaning by that what has science, the rational thought of the Greeks, to do with the heavenly city wherein God has made himself known to man. His answer was simple enough: "Nothing." And if we accept that, then of course this can be a very short lecture. But some astute Fathers of the Church, and I am thinking of Clement of Alexandria and Gregory of Nyssa, saw that a premature divorce between reason and faith could do more to hurt Christian apologetics than the attempt to promote a marriage between them. The Church of the present day has inherited this mentality, and in its spirit we address the problem before us. But the mere mention of these Fathers of the Church should alert us to the fact that the debate between science and religion is but one phase of a larger controversy that has been going on for twenty centuries, that, namely, of the respective provinces of reason and belief in man's attempts to know about God and the universe he has made.

What then of the middle ground between conflict and concord, if we rule out the forced isolation that comes by erecting this high wall of separation? There are various possibilities: dialogue, even with the recognition that this can get heated and erupt into controversy; if it does, conflict resolution, which at least can end in compromise; more optimistically, collaboration on the part of scientist and believer, wherein areas of competence are recognized and some form of complementarity readied. These are some of the avenues we might explore this evening. In my view, conflict, controversy, and compromise have in the main characterized the past history of the science-religion relationship. Yet there have also been periods of collaboration, and even of euphoria when a genuine complementarity seemed realizable, if not completely attained. Its true attainment, I am afraid, remains largely a program for the future, but we will have made some advance if we come to recognize this, and think seriously how it may be brought about in the decades that lie ahead.

GALILEO AND BELLARMINE

Dialogue is the indispensable starting point, and so I propose to review for you several of the great dialogues of the past; to see what we can learn from them about the directions in which they tend to lead. The first will be the most famous of all, that between Galileo and Bellarmine, which started out innocently enough in 1615 but ended in the bitter conflict of 1633, wherein Galileo was forced to capitulate, vanquished by the Inquisition, the most celebrated casualty in the warfare between science and religion. Galileo's initiative was clear and unpretentious: with his newly perfected telescope he had made discoveries that seemed to contradict the sayings of Scripture. But, he reasoned, the Book of Nature and the Book of Scripture have the same author, and truth cannot contradict truth. Therefore, reinterpret those sayings of Scripture to ways that accord with my scientific discoveries, and harmony will once again be restored. Yes, replied Bellarmine, your principles are excellent and you reason well, but have you actually discovered what you think you have? Are you presenting scientific truths that are clearly demonstrated, or are they simply hypotheses that enable one to calculate the positions of the planets but say nothing certain about the structure of the heavens? If demonstrations, convince your fellow scientists of their truth; if not, leave the Scriptures to the Scripture scholars, for they are more expert than you in telling what the word of God means.

We need not review again the tragic events of 1633, for we have here all we need to point up our problem. Both Bellarmine and Galileo were agreed on a common goal: truth. In his *Letter to Christina* Galileo had implicitly assumed, and in this he was merely following Bellarmine's lead in his letter to Foscarini, that the growth of scientific knowledge must have important implications for one's interpretation of the Bible. Once a person knew, by reason, the details of the movements of earth and sun, he could no longer accept on faith an interpretation that failed to take such movements into account. In other words, biblical exegesis could not be made on the basis of tradition alone but would have to respect "matters of fact" as these were established by science. As a corollary of this, religion could no longer stand completely aloof from science. Henceforth there would have to be continuous dialogue between scientist and believer, the former furnishing the truth about the universe as knowable through reason alone, the latter using such knowledge for the fullest understanding of divine revelation.

On their goal, then, Bellarmine and Galileo were agreed. Their difference came precisely over whether that goal had de facto been achieved. As my researches have shown, both subscribed to an Aristotelian theory of science and demonstration, wherein reason, unaided by special revelation from on high, could arrive at certain and unrevisable truth about the physical universe. In 1615, when both letters were written, I think Galileo felt he already had a strict demonstration of the earth's motion. Bellarmine, backed up by Jesuit astronomers of the Collegio Romano, was just as convinced that such a demonstration had not yet been attained. And the consensus of modern historians of science seems to be that, whatever people might regard in the present day as adequate proof of the earth's motion, such proof was not produced in Galileo's lifetime. Reason seemed more fallible than faith, and so the great "Father of Modern Science" was vanquished --- not for the ideal he had proposed, but because he was judged a failure in its attainment. The victory was the Church's, but we should note that it was made possible only by the force of authority, both civil and ecclesiastical, that reigned in the Italy of the *seicento*. At that time reason could no more demonstrate the earth's rest than its motion, but authority could be imposed despite reason's limitations, and its imposition was what brought about Galileo's downfall.

BENTLEY AND NEWTON

The Church's teaching authority was not monolithic, however, and the next dialogue we shall examine took place in a more relaxed atmosphere, that of Protestant England at the end of the seventeenth century. By then science had achieved considerably more stature than in Galileo's Italy, and there were those, such as Thomas Hobbes, who were using its findings to advance the cause of atheism. A new battle was looming on the horizon, one between belief and disbelief, and so the theologian Richard Bentley went to the foremost scientist of his day, Sir Isaac Newton, to enlist his help on the side of religion. The dialogue between Bentley and Newton was much different from that between Bellarmine and Galileo, for Newton was able to produce arguments that supported, rather than contested, the prevailing interpretation of the Scriptures. His mechanics, he wrote to Bentley, could explain many features of the solar system, but it could not explain the stability of planetary orbits or why they had their particular orientation in space. Far from being a superfluity for the scientist, God had become more of a necessity than ever. In a powerful creative act at the beginning of time, God himself must have arranged the planets in space and impelled them with forces exactly calculated to put them in elliptical orbits around the sun. Not only that, but God must continually intervene, as an active principle, to maintain the planets in those orbits and thus assure the smooth running of the universe. Bentley was delighted. Not only could reason and belief coexist, but religion was actually reinforced by the new findings of science, and so atheism could be refuted and revelation restored as a credible source of truth about the physical universe.

Newtonian concordism, if we may call it that, was a master stroke, and it promoted harmony between science and religion throughout most of the eighteenth century. Yet it contained a fatal flaw that needs to be pointed out, for it strongly influenced the later course of the dialogue we are investigating and ultimately brought it to an impasse. The flaw has been labeled the "God of the gaps" doctrine. Newton had produced a mechanical explanation of the universe that was of surpassing beauty and ingenuity, but there were gaps in his mechanical

explanation. What he had done, unwittingly perhaps, was use God as a way of filling those gaps, and thus giving a complementary explanation to the one provided by his mathematical physics. This was good as far as it went, but Newton was not sufficiently far-sighted to see ahead to the *Mecanique celeste* of Pierre Simon de Laplace, wherein the gaps in the Newtonian system could be filled using more sophisticated mathematical methods than he himself had worked out. Newton had tied science and religion with such strong bonds that advances in the one would inevitably entail retreats in the other. Like Galileo before him, Newton had thought to place his science at the service of religion. But when his gaps disappeared, there was the invitation to make his “God of the gaps” disappear along with them, and so permit the rejection of religion in the name of the very science he had cultivated.

The Bentley-Newton compromise could be patched up, it was then seen, by eliminating God as the active principle required to keep the solar system going, and by localizing his activity as the Alpha and the Omega, as it were, in the creation at the beginning of time and at the eschaton that would mark its end. In this way religion could tell us about man’s origin and destiny, but the present universe would become the exclusive preserve of science. Many believing scientists in Britain, far removed from the authoritarian teachings of Rome, were quite content to adopt this type of concordism. As Anglicans they had started with the triune God of Christian revelation, but they settled for God the Creator alone, having no role in their science for the other Persons of the Trinity. This perhaps explains how in Newton’s own case Trinitarian belief gradually degenerated into Unitarianism. It would be but a short path from there to the rationalism of the Enlightenment, wherein many of Newton’s compatriots, supremely confident in the power of reason, would adjust all of the doctrines of Christianity to fit the science of their day. In Rome the voice of authority had become strident and oppressive; in England it would be barely heard, with unfortunate consequences for the deposit of faith.

Yet dialogue continued, with most religious thinkers quite unaware that the temporal division of labor had unduly restricted their scope. Without their knowing it, the development of science had effectively narrowed the range of what people henceforth would be allowed to believe. The role of faith had diminished, the province of reason had expanded. This notwithstanding, a majority of scientists were still believers in a general way: they were amenable to the view that knowledge of God, man, and the universe could still be derived from two sources, the Book of Scripture and the Book of Nature. The Scriptures, as we have seen, could provide valuable and otherwise unavailable data about origins and ends, whereas the Book of Nature, for the intelligent observer, would provide convincing evidence of the order that was the hallmark of its Maker. The invention and perfection of telescope and microscope had opened up vistas hitherto unimagined by man, and soon the argument from design became the accepted fashion. By the end of the eighteenth century and with the beginning of the nineteenth, a whole series of new theologies sprang into being: star theologies, plant theologies, insect theologies, fish theologies --- all purporting to show, from the vast expanse of the universe to the intricacy of detail in its smallest organism, how each must be the work of a Supreme Intelligence, the Designer and Author of Nature.

BUCKLAND AND LYELL

Then, as the nineteenth century wore on, a new initiative came, one particularly helpful for understanding the creationist debates of the present day. Science for the first time paid serious attention to the bowels of the earth. Men began to dig in earnest, fossils were uncovered in great numbers, and the stratification of the earth’s crust was revealed in ever newer detail. Such archeological and geological discoveries were of momentous importance for the dialogue between religion and science. Apparently strange things had happened in times past, evidences of floods and other catastrophic events, which might be seen as God’s hand manifesting itself in the history of our planet. Scientific geology quickly opened out to Scriptural geology, and it is noteworthy that William Buckland, professor of geology at Oxford, devoted his inaugural lecture there in 1819 to showing that the study of geology confirms the evidences of natural religion, “that the facts developed by it,” and I quote, “are consistent with the accounts of the creation and deluge recorded in the Mosaic writings.” As Buckland saw it, science could uncover the effects of God’s actions but revelation alone was able to tell man about their

causes. The euphoria of complementarity to which I have alluded thus began to sweep over the university community. Science could best study the present, but religion was necessary for the past; science could inform us of phenomenal effects, but religion alone could reveal their ultimate causes.

Amid the resulting complacency there were few who realized that the day had again been saved by a “God of the gaps” doctrine. But just as Laplace had shown that the astronomical effects Newton explained by his God could be just as well, or better, explained by mechanical forces, so another thinker appeared on the geological scene to sound a deeper note of conflict. I refer to Charles Lyell, the “Father of Modern Geology,” who set himself the unassuming task of showing that every geological change in the earth’s history could be explained by causes similar to those still known to be acting in its interior. The success of his program proved as rapid as it was unexpected, with the result that God’s intervention was soon recognized to be as superfluous in geology as it had been in celestial mechanics. Lyell himself was a believer, so let me be clear on this: he was not rejecting God entirely as a principle of explanation. Like most believing scientists of his day, he still allowed that God’s creative act was the only way of explaining how man came into existence on the earth’s surface. But a young naturalist whose name is well known to you, Charles Darwin, took Lyell’s *Principles of Geology* with him when he set out on the Voyage of the Beagle. It is now recognized that his monumental achievement was to apply Lyell’s principles to the changing history of life itself. Darwin would explain by natural causes operative in present experience the many transformations life had undergone in its long history. In his hands, scientific laws would become the exhaustive explanation of organic development, so much so that no room was eventually left for religion to supply useful information about man and his origins.

HUXLEY AND WILBERFORCE

With regard to all this, what Darwin held in his innermost thoughts is quite revealing: he became more and more agnostic, and by the end he was a complete atheist. However, his wife’s solicitude and his son’s editing gave him needed protection, and he did not have to proclaim this in public. That fortune fell to his advocate and propagandist, Thomas Huxley. The *Origin of Species* was published in 1859, and in 1860 the British Association for the Advancement of Science met at Oxford. Not only were orthodox scientists concerned about these new developments in biology, but so was the Church of England. A debate was therefore scheduled at the meeting between Huxley and Bishop Samuel Wilberforce, who had not read the Origin but had been coached in its refutation by an eminent British scientist, Sir Richard Owen. You probably have heard how that encounter ended. Wilberforce resorted to the rhetoric of *ad hominem* argument, and turned to Huxley at one point to inquire: “Is it on your grandfather’s or on your grandmother’s side that the ape ancestry came in?” Huxley’s reply was a classic that loses none of its appeal from having often been cited:

I have asserted and I repeat that a man has no reason to be ashamed of having an ape for a grandfather. If there were an ancestor whom I should feel shame in recalling it would be a man of restless and versatile intellect who, not content with success in his own sphere of activity, plunges into scientific questions with which he has no real acquaintance, only to obscure them by aimless rhetoric and distract the attention of his hearers from the point at issue by digressions and appeals to religious prejudice.

Well, as one writer reports, the bishop was put in his place, and though many people present were shocked, and Lady Brewster, among other notable women, thought it proper to faint, the final consensus was overwhelmingly on the side of science and the great concept of evolution. Wilberforce had been vanquished just as completely as Galileo had been, with the British Association adopting the authoritarian stance formerly taken by the Roman Church.

ADJUSTMENTS & COMPLEMENTARITIES

Dialogue, as I have noted, is the obvious way to head off conflict between science and religion, and by now

we have looked at several between the years 1615 and 1860: Galileo and Bellarmine, Newton and Bentley, Lyell and Buckland, and now Huxley and Wilberforce. After this last, let me say that the conversation Galileo hoped to initiate with Bellarmine had been effectively reduced to a monologue. In Galileo's day, to be sure, science was in its infancy and religion exerted the most powerful social and political pressure of which it was capable. By the end of the nineteenth century and throughout most of the twentieth the tables had been turned completely. If there was anything to say about the state of the present universe, and about knowable events throughout its long history, this would have to be said by science; religion would no longer be necessary some would hold not even relevant --- to their understanding. After each encounter from 1615 onward less and less was left for religion to contribute to the content of human knowledge.

The adjustments of believers to these developments were quite predictable. In a battle wherein they were constantly being defeated, not surprisingly most decided either to join forces with the enemy or to change the ground of battle entirely, so that religious belief would remain forever unaffected by subsequent advances in science. A new type of complementarity would gradually be asserted, phrased differently by the various orthodoxies, but all amounting, as we shall see, to the same thing. One type would take its inspiration from Immanuel Kant, whose lifelong endeavor to lead philosophy along the secure path of Newtonian science led him finally to reject metaphysics as a transcendental illusion. The only valid knowledge for him henceforth would be at the phenomenal level, the field of science, and this would engage all the energies of the intellect; if religion were to have its domain, this would have to be lodged in the will. God and morality were for Kant still subjects of great human concern, but these could no longer pertain to knowledge --- rather they were matters of belief and so depended on one's will. From this it would be an easy step to handing over the entire scope of objective and verifiable knowledge, public knowledge if you will, to science, and leaving religion to one's private concern --- a matter of personal choice on which people were not expected to agree. This, you will recognize, has become the American creed: science can be taught in our public schools, but not religion, which is too subjective, too voluntarist, too divisive, to count as valid and communicable knowledge.

The Kantian complementarity of the rational and the voluntary, the scientific and the religious, finds echo in various existentialist themes, those for example of Martin Buber and Karl Heim. For them science differs from religion precisely on the same basis as objectivity differs from subjectivity. For something to be objective is for it to be "out there," something in the past, something that already "has been." The subjective, as opposed to this, puts one in contact with the "now"; it defines an area of personal communication and understanding that shows what really is, what actually exists. Linguistic analysis works along a parallel line: science and religion differ in that they use different languages, and this because of their mutually exclusive concerns. The language of science is instrumental: it enables one to summarize data, to make predictions about the future, even to control the course of nature. The language of religion performs a different function: it orients a person's life in matters of ultimate concern, worship, and devotion. Conflict again has been defused, but at the expense of enforcing such dichotomies as those of the reason and the will, the objective and the subjective, the natural and the personal.

Unhappy with these compromises, others have made the most of yet another polarity, that between immanence and transcendence. Liberal theologians such as Friedrich Schleiermacher, unhappy with continual retreat, decided to take over the enemy --- by the simple expedient of assimilating all of science's discoveries within a weakened religious context. They chose the path of immanence. For them, God is immanent within nature, himself a part of the evolutionary process. Man is sinless; when people speak of "original sin" they obviously are referring to his undeveloped state, from which he is rapidly progressing through the advances of science. God is so identified with nature that it is impossible to discover him as Newton and Buckland hoped to do; rather he must be sought within ourselves, in an affective way, in the "miracles" he works in our daily lives. Reacting to such over-emphasis on immanence, Karl Barth chose instead the path of transcendence. For him, God is not immanent within nature; rather he is completely transcendent, the "wholly Other." Far from being sinless, man has been so degraded and blinded by sin that his reason is powerless to understand the world as God's handiwork. The gulf between God and sinful man, in fact, is so vast a person can never cross it through moral consciousness or religious experience. Not on his own initiative, but only when God chooses to reveal

himself, can a human being come in contact with his Maker. The liberals bought science with its entire package; the Barthians slammed the door on science and took Tertullian's way out --- religion and science have no more in common than have God and man, which is absolutely nothing.

KUHN AND THE CREATIONISTS

By now you will have recognized that we have come almost to the present day. Some of the themes I have mentioned may already have begun to work their way into CCD classes. But then, in the early 1960's, just about the time of the Second Vatican Council, signs of a different development began to appear, and quite unexpectedly. This time it was not religion that proved to be in disarray, but rather science. From within the ranks of scientists voices of dissension were heard, and science itself began to face what has been referred to as its "crisis of legitimation." The spokesman for the "crisis" is well known to historians and philosophers of science; he is Thomas Kuhn, and what he has to say has great bearing on the science-religion controversy.

Kuhn interested himself in the many changes that have taken place in science throughout its history --- the changing face of science as seen in its revolutions --- and saw something there that had not been noted before. Science was not the objective enterprise people thought it was; its record did not reveal the cumulative growth of knowledge usually claimed for it; above all, its goal was not truth about the universe. Its methodology, far from being governed by flawless logic, was dominated instead by socially conditioned paradigms --- paradigms taught authoritatively in the universities, whose warrant for acceptability is their value in solving problems. Science progresses all right, but it does so simply by solving problems --- problems, oddly enough, always formulated in ways that make amenable to solution by the reigning paradigm. So its progress, like beauty, is in the eyes of the beholder. Scientific revolutions are nothing more than paradigm shifts, and these shifts, as those in a visual Gestalt, merely present a different view of the universe, incompatible of course with previous views, but in no way closer to truth. Subjectivity and intuition are not the exclusive domain of the humanist; they are part and parcel of the scientist's ways of thought also.

So enter finally the scientific creationists. Evolution had been proposed from the beginning as a theory, and in this way it was no more offensive than Galileo's heliocentrism in the early seventeenth century. The uproar come when a stronger claim was made: that evolution was a fact, certified and established beyond all doubt by the findings of science. If evolution's truth-status could be questioned, if Kuhn's views, for example, about the nature of science were correct, then why teach evolution to our children in the schools? At least give the alternative equal time: if you must teach scientific evolutionism, then teach scientific creationism along with it. Note the adjective, "scientific" creationism, for the creationists saw that the American creed, the law of the land, would be their undoing if religious belief were suspected, if their teaching were not as scientific as that of their adversaries. The battle was lost in the courts, as you are well aware, and I suppose you noted how the ACLU secured the victory in this most recent battle between science and religion. They brought in the "authorities," scientific authorities to be sure, to say that creationism was not science and thus had no place in our schools. Be not deceived: knowledge did not define the parameters of the engagement, any more than it did in the tribunals of the Inquisition. Authority again had the last word, only this time it happened to be on the side of science rather than on that of religious belief.

THE PROGRAM FOR THE FUTURE

The Catholic Church sat on the sidelines of the creationist dispute, just as it did during the Huxley-Wilberforce confrontation. How, you ask, could this happen? Are fundamentalists the only ones convinced that creation is a fact, that it took place at the beginning of time? Do Catholics buy the whole package of evolution, do they believe in a "two-truths" doctrine, or have they adjusted their religious truths to fit the truths established by science?

Difficult questions to answer, these. But I suspect that American Catholics share a general feeling that we are

faced here with a pseudo-problem, because truths in the old-fashioned pre-Vatican II sense are not really at stake. One is no longer forced to declare oneself on the side of religion or of science. Thomas Kuhn is probably right; scientific method, so-called, has always been suspect by Catholic philosophers for making more claims than it can fully justify. And now we have come to suspect, through ecumenical dialogue, that religious truths do not have the inflexibility attributed to them heretofore. Perhaps most beliefs of earlier times are open to new interpretation; let us not be too dogmatic in proclaiming what actually did happen in the past, or even what the word of God, as contained in the deposit of revelation, is all about. Couple this new awareness with the fallibility and the revisability of science, and the problem dissolves before our eyes. Neither science nor religion has an uncontested claim to truth. If a conflict appears on the horizon, there is an easy way out: simply weaken cognitive claims on both sides of the dispute. Reason cannot know all the answers, but neither can faith. Harmony and concord reign once again because truth, at best, is an elusive ideal. We need not die on the barricades defending a transcendental illusion; agnosticism is the safer course, and surely it offers the greatest hope for procuring a lasting peace.

Attractive as such irenicism may appear, I believe it is a false irenicism that can have more disastrous consequences than any “God of the gaps” doctrine of earlier centuries. As I see it, there is a true complementarity between science and religion. This complementarity, however, is not easy to define or achieve, and most efforts I have already sketched prove to have been of little value in its attainment. To make progress I am convinced that we must go back to square one, to the dialogue between Galileo and Bellarmine, wherein the rights of truth and of authority in knowledge were first clearly promulgated. Science’s claim to legitimation can only be, Thomas Kuhn to the contrary, its claim to truth. Clearly it is not found in science’s self-certifying authority --- although I do not deny that truth, once found, will have competent authorities as its defendants. Belief based on revelation must build on truths established by reason, but in matters of religious belief authority becomes crucial, for a community of believers cannot be the result of private interpretation. For Catholics there has always been agreement on this: authoritative teaching is the safeguard of religious belief, and this is the responsibility of the Church’s magisterium. Thus science and religion have their meeting ground in truth: scientific truth as established by reason, religious truth as proposed by the Church and assented to by faith.

There is an important difference, however, between the two truths. Religious truth can be certified by a single authoritative pronouncement, as we are well aware, whereas scientific truth requires the consensus of many investigators, often spanning continents and even centuries for its full certification. Here, then, is the essential tension behind the science-religion disputes of the past. Science takes time, it weaves its way through devious paths, before it attains the truth that is its goal. Its breakthroughs and discoveries are rarely definitive; they have no counterpart to the infallible decree from the Vatican. But, paradoxically enough, the very time that science takes, plays an important part in the development of religious doctrine. The total content of revelation was not available for authoritative definition with the death of the last Apostle. Only through slow and painstaking scientific investigation were the literary genres of the Bible uncovered and the rules for its interpretation ascertained. The example is simple, but it illustrates well the true complementarity of science and religion, of reason and belief. Were such rules known to Rome in 1615 and 1633, Galileo would have been spared the indignity to which he was finally subjected. But had he not suffered that indignity, had he not been motivated by the passionate desire for truth that brought it about, Scriptural studies would never have achieved the status they enjoy today.

Unbelievers will be unconvinced by all this, and even for believing scientists it poses a problem. Galileo warned about it centuries ago in his *Letter to Christina*: the tasks the Catholic scientist sets for himself are difficult and time-consuming, and the Church has the power to crush him at any time. Pope John Paul II, sensitive to the injustices of the past, has called now for Galileo’s rehabilitation and for a restoration of harmonious relations between science and religion. This is a hopeful omen for the future. But let me make it clear that at the moment it is only a program, an agenda yet to be carried out. Must every finding proposed by a scientist be conclusively demonstrated before the believer may take it into account? Such was the norm Bellarmine used against Galileo in 1615. To my knowledge it is still in effect, or at least I know of no forum where current theories and

probabilities are being seriously entertained for their doctrinal and ethical implications. Perhaps such a forum is what the Holy Father has in mind for the Pontifical Academy of Sciences and the Vatican Secretariate for Non-Believers, when he asked these groups to reopen the Galileo case. And yet we know that, even in the recent past, the encyclicals *Humani generis* and *Humanae vitae* were not notably receptive to the thought of Catholic Progressives such as Teilhard de Chardin and John Rock on evolutionary theory and biochemical advances respectively.

At the outset we asked about conflicts between science and religion, and now we see why the potential for conflict is always there. The basic reason is that the problems being addressed permit of no instant solution. Science is time-conditioned and must undergo its own evolution. Religious doctrine also evolves, though in the hands of a conservative guardian most conscious of its authoritative responsibility. Tension is the inevitable concomitant of such wary collaboration between reason and faith. But the goal is so priceless --- truth about God, man, and the cosmos --- that we do well to live with it as we approach 1984 or 2001, with the many problems they most certainly will have for us.