TRUTH, FAITH AND REASON: POPE BENEDICT XVI'S LECTURE AT THE UNIVERSITY OF REGENSBURG

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Pope Benedict XVI interleaved two themes in his lecture at the University of Regensburg on September 12, 2006.[1] These will be discussed here in two separate parts: *Truth, Faith, and Reason* and *The Dialogue of Cultures*. The first addresses the Pope's proposal to expand scientific reasoning to include the "rationality of faith"; and the second with the threat of radical Islam, and whether a "dialogue of cultures" is possible if the West persists in its belief in what the Pope calls a "reason which is deaf to the divine".

PART ONE: TRUTH, FAITH AND REASON

The essence of the Enlightenment, as put by Isaiah Berlin in his essay *The Counter-Enlightenment*, "is the proclamation of the autonomy of reason and the methods of the natural sciences, based on observation as the sole reliable method of knowledge, and the consequent rejection of the authority of revelation, sacred writings and their accepted interpreters, tradition, prescription, and every form of non-rational and transcendent source of knowledge".[2] Notice that Berlin does not say that this approach is the sole method of obtaining knowledge, only that it is the sole *reliable* method, meaning that knowledge obtained in this way can be confirmed by experiment. This form of knowledge is increasingly coming into conflict with beliefs based on divine revelation.

Knowledge based on reason and the methods of natural science is threatening to many of those who hold conventional religious beliefs because the implications of such knowledge raise the fear that their lives may lose meaning and direction, and that they will no longer have an ethical basis for behavior. They especially abhor a future bereft of personal immortality. If the origin of life, and humanity in particular, has a natural explanation, how can one believe in the immortal soul, or that humanity is central to God's creation? Belief in the findings of science about our origins will not only destroy the creation myths of humanity, but will also force the acceptance of the proposition that impersonal and indifferent forces were behind its creation, along with that of all other living creatures.

Benedict XVI, referring to the rapprochement between Biblical faith and Greek inquiry, made the point that the mysterious name of God as "revealed from the burning bush, a name which separates this God from all other divinities with their many names and simply declares 'I am', already presents a challenge to the notion of myth. . . . This new understanding of God is accompanied by a kind of enlightenment, which finds stark expression in the mockery of gods who are merely the work of human hands." This ancient enlightenment is accepted by the Pope, but what of the intellectual awakening of the 18th century?

Benedict XVI maintains that he does not reject the Enlightenment, and that his "critique of modern reason from within has nothing to do with putting the clock back to the time before the Enlightenment and rejecting the insights of the modern age." He characterizes the Enlightenment as being based on the idea that "only the possibility of verification or falsification through experimentation can yield ultimate certainty." It is interesting that the Pope characterizes those who follow the Enlightenment and the scientific method as believing that their findings lead to "ultimate certainty". It would seem that this phrase would more properly be associated with religious dogma or beliefs gained through revelation rather than knowledge gained through scientific methodology.

He objects to this being the sole approach to knowledge, because "by its very nature this method excludes the question of God, making it appear an unscientific or pre-scientific question. . . . if science as a whole is this and this alone, then it is man himself who ends up being reduced, for the specifically human questions about our origin and destiny, the questions raised by religion and ethics, then have no place within the purview of collective reason as defined by 'science', so understood, and must thus be relegated to the realm of the subjective." Implicit here is the idea that religion and ethics *should* be within the purview of science and that both are objective and therefore not subjective and consequently a personal matter. The Pope maintains that if ethics and religion are subjective, the individual decides "on the basis of his experiences, what he considers tenable in matters of religion, and the subjective 'conscience' becomes the sole arbiter of what is ethical".

But often it is not the individual who makes the choice of what behavior is ethical, but the community as a whole. Over historical time people have discovered that certain forms of ethical behavior are needed and must be imposed in order to have a flourishing of civil society. This is the basis of the rule of law. And while the ethics imposed by society is often consonant with religiously based ethics, it also has a large component based on experience. Thus, it does not follow, as claimed by the Pope, that if religion and ethics are subjective they necessarily "lose their power to create a community and become a completely personal matter". The distinction may not have been particularly important in the past when society and religion were closely integrated, but it is relevant to today's Europe with its increasing secularization.

Benedict XVI believes that the modern conflict between faith and reason can be overcome "only if reason and faith come together in a new way, if we overcome the self-imposed limitation of reason to the empirically verifiable, and if we once more disclose its vast horizons. . . . In the Western world it is widely held that only positivistic reason and the forms of philosophy based on it are universally valid. Yet, the world's profoundly religious cultures see this exclusion of the divine from the universality of reason as an attack on their most profound convictions."

The Pope characterizes questions about our origin and destiny as having no place in the purview of collective reason as defined by a science that excludes the divine. But the issue of the origin of the universe, and of humanity in particular, is just what is controversial about modern science, and it is central to much of the current conflict between faith and reason. The fact that the evolution of the universe from the first instant of its creation is now largely understood by science not only conflicts with the Pope's point of view, it falsifies the creation myth implicit in many people's understanding of Christianity.

With regard to the origin of humanity, Benedict XVI made his position clear in his first mass as Pope when he stated that "we are not some casual and meaningless

product of evolution." In this context, it should be noted that Pope John Paul II, who did much to reconcile faith and science, declared in 1980 that there was no contradiction between the two. To resolve this apparent conflict, it is likely that the Church will affirm a form of theistic evolution, which posits the general principle that biological evolution is valid, but set in motion by God.

Indeed, those who continue to hang their hat on the compatibility of science and religion do so on a single instant of time—the instant of creation. Many religious people who accept the findings of science, including the natural evolution of humanity and the universe itself, believe that it is the instant of creation that matters and that the subsequent evolution of the universe follows God's will as embodied in modern science. Since science is still unable to explain the instant of creation, this position continues to allow science and religion—at least in some form—to coexist. But, to the dismay of many who hold this position, the creation remains an active area of research, although at this point the investigations fall more into the area of scientific philosophy (some would say speculation) rather than science *per se*.

"Only the kind of certainty resulting from the interplay of mathematical and empirical elements can be considered scientific," maintains Benedict XVI. "Anything that would claim to be science must be measured against this criterion. Hence the human sciences, such as history, psychology, sociology and philosophy, attempt to conform themselves to this canon of scientificity." But the attempt by these fields to emulate the rigor of the physical sciences, perhaps to their detriment, is relatively new. And while each of them may benefit by the use of scientific methodology where appropriate, they are not really sciences in the sense of the physical sciences, but rather areas of enquiry where scientific methodology may have only limited utilitarian value. It is for this reason that they are sometimes referred to as the "soft sciences". Of course, if they are to be of lasting value, their findings and theoretical explanations must be constrained by the boundaries of logic and observation.

As an example, consider René Descartes' introduction of the theory of dualism in 1632. Under it human beings have a dual nature: the material body and the immaterial and indestructible soul. As put by Eric Kandel in his exceptional memoir *In Search of Memory*: "The Roman Catholic Church, feeling its authority threatened by new discoveries in anatomy, embraced dualism because it separated the realms of science and religion."[3] Descartes put forth this dualistic theory during a period of great controversy between the Church and science. While René Descartes was a brilliant mathematician and the father of modern philosophy, his dualistic concept too must ultimately obey the constraints of logic and observations that become more refined over time. Modern science has shown that all mental processes including consciousness and our sense of self are biological and arise from the brain. And although science does not yet understand all aspects of consciousness, the soul can no longer be viewed as being responsible for its origin.

To understand how scientific knowledge conflicts with that based on revelation, it is necessary to understand exactly what is meant by revelation. Judaism, Christianity, and it is not unreasonable to include Islam here, are religions of revelation. By revelation, most people are referring to theophany, the sudden and dramatic manifestation or appearance of God or the unveiling of a mystery. Moses seeing the burning bush, as alluded to by Benedict XVI, or coming down from the mountaintop with the Ten Commandments are examples. Religious fundamentalists, whether Islamic, Christian, or Jewish believe in theophany. And theophany, as recorded in scripture, gives an absolute, eternal form of truth. Nothing that comes after can alter such truths. It is for this reason that fundamentalists also believe in a literal interpretation of scripture.

As theophany, revelation is the exact antithesis of scientific knowledge. As we will see, there are no absolute or eternal truths in science. Secular, scientific reasoning cannot accept the divine, with its immutable truths if it is to remain true to itself; contrary to Benedict XVI's argument that faith and reason are inextricably bound, knowledge gained from scientific reasoning and knowledge gained through revelation are fundamentally incompatible because one is provisional and the other eternal. Which is

not to say that reason is not used within the realm of faith, but it is a reason having a different nature from that used in the physical sciences.

There is, however, a form of revelation—not based on theophany—that *is* compatible with science. As put by James Carroll in his brilliant history, *Constantine's Sword*, "the truth of our beliefs is revealed in history, within the contours of the mundane, and not through cosmic interruptions in the flow of time. Revelation comes to us gradually, according to the methods of human knowing. And so revelation comes to us ambiguously. Certitude and clarity are achieved only in hindsight, and even then provisionally."[4] Since it is this provisional nature of knowledge that is also the essence of scientific knowledge, religious people who find themselves able to accept Carroll's definition of revelation should have no difficulty accepting the findings of modern science—those findings reflect the will of God.

People often refer to the "laws of nature". But this is really quite misleading. All scientific knowledge is provisional, based on observationally constrained models of the world as perceived through our senses sometimes aided by instruments. Benedict XVI claims that only "the interplay of mathematical and empirical elements can be considered scientific". And while it is true that the models developed by modern science to explain the world around us often make use mathematics, they do so because of what Eugene Wigner[5] called "the unreasonable effectiveness of mathematics in the natural sciences". As put by him, "the laws of nature are all conditional statements and they relate only to a very small part of our knowledge of the world". In the deepest sense, we really do not understand the relationship between mathematics and the physical world.

For example, much of the mathematics used in physics subsumes concepts of space and time that were formalized by the ancient Greeks. These include our concepts of an infinitely divisible space and time. Both concepts work very well for classical physics such as Einstein's theory of gravity (general relativity), and even underlie quantum mechanics where *measurements* of space and time, when simultaneously measured with momentum and energy, have fundamental limits set by the Heisenberg

uncertainty relations. Physical space and time at very small distances and intervals may bear little or no relation to a continuum, and this is a very active area of research.

Truth and falsity in science are decided by empirical verification. Theories are either true or false in science, which is not to say that one cannot construct scientific theories that are not provable with current technology or may never be observationally refutable. But theories that are not refutable in principle are generally rejected in science. In mathematics the situation is different. Kurt Gödel showed that if the axioms of a system at least as complex as arithmetic are consistent, there are statements whose truth or falsity cannot be decided on the basis of those axioms.[6] This is Gödel's famous "incompleteness" theorem. Any formal logical system encompassing the addition and multiplication of positive integers and zero is subject to the limitations of Gödel's theorem. Its scope is breathtaking, including as it does most of formal mathematics. Given the extensive use of mathematics in the natural sciences, are corresponding limitations imposed on the mathematical models intended to represent the real world? We simply don't know.

Religious cultures, according to Benedict XVI, see the exclusion of the divine from reason as an attack on their most profound convictions. And while this is certainly true, it does not prevent people in these cultures from using some level of scientific reasoning or modern technology. But this does not mean that these cultures have absorbed the scientific world-view, based on the Enlightenment, that underlies their often cursory use of scientific reasoning or technology. The fundamental beliefs of religious cultures are indeed incompatible with what underlies the fruits of scientific reasoning.

By far the greatest challenge facing religion today is not human evolution or the origin of the universe, but the on going revolution in biology. This field is experiencing a ferment not seen since the heady days of physics during the first third of the 20th century. And the results may well overshadow the changes in society engendered by the physical sciences.

While many religious people are still trying to come to terms with Darwin's theory of evolution or the findings of modern cosmology, science has moved far beyond their concerns. An even more fundamental challenge to their world-view is at their doorstep. It is one that far transcends the challenges of the Enlightenment and the development of science through the 20th century: we are now on the verge of creating life in the laboratory—and indeed, have essentially already done so.

In 1828 Wöhler's synthesis of urea, previously thought to only be produced by living organisms, was the first in a series of discoveries that destroyed the concept of vitalism, the idea that a "life force" was necessary for living creatures to exist. Although urea is a simple molecule, its synthesis was intellectually an enormous breach in the barrier between the animate and inanimate world. The chemistry of life was shown to be no different from normal laboratory chemistry.

In 2002, Eckard Wimmer and his colleagues at the State University of New York in Stonybrook successfully synthesized infectious polio virus particles from off the shelf chemicals. The experiment showed that it was possible to synthesize a simple life form. This is only a first step in the creation of life, but the philosophical implications are phenomenal.

Wimmer's work was rapidly followed by that of Craig Venter and his colleagues who synthesized the genome of a bacteriophage (a virus that infects bacteria) in the short period of 14 days. Like the polio virus, the synthesized particles of the bacteriophage were infectious and could reproduce. And although one might argue that viruses are not free-living creatures but require a host organism to multiply, it is likely that the creation of complete organisms that are self-reproducing is not very far in the future.

At the end of his speech, Pope Benedict seems to accept that the scientific form of reasoning cannot be modified to include the divine, and that philosophy and theology do not fit into its purview, when he says that: "Modern scientific reason quite simply has to accept the rational structure of matter and the correspondence between our spirit and the

prevailing rational structures of nature as a given, on which its methodology has to be based. Yet the question why this has to be so is a real question, and one which has to be remanded by the natural sciences to other modes and planes of thought—to philosophy and theology."

Does the question of "why this has to be so" refer to the exclusion of the divine from the scientific method, or to the perception that scientists do not appear to treat the scientific method itself—as opposed to the findings of this method—as provisional, but rather as the sole and infallible means of discovering truth. If the latter, then there is a failure of communication and perhaps understanding on the part of scientists. As pointed out above in the quote from Eugene Wigner, scientific "truth" is only a limited part of our knowledge of the world. Vast areas of human knowledge dealing with other aspects of our complex mental and social existence are only peripherally or not at all subject to the scientific method of the physical sciences.

Scientists understand that even the scientific method itself is provisional. If it fails in an area of its domain of applicability, it will be subject to modification. But so far not only has this has not happened, it is not clear that it could. Whether the scientific method itself is refutable is indeed a question that should be remanded to epistemology. Indeed, there is already a vast literature on the subject and until there is a definitive resolution, it is theology and the world's profoundly religious cultures that must adapt to humanity's growing understanding of our origins and place in the physical universe.

PART II: THE DIALOGUE OF CULTURES

The dialogue of cultures, while it could conceivably be far broader, is in this context the dialogue between the developed, western world and that of Islam. Were it not for the discovery and commercialization of oil in the Persian Gulf, and the West's continuing dependence on these reserves, there would be little need for a dialogue of cultures. While the conflict between radical Islam and the modern world would still exist without the oil issue, it would be far less intense if the cultural distortions induced by the flood of oil money into the Gulf did not exist.

Underneath today's need for a dialogue of cultures lies Islamic terrorism, the most recent manifestation of the reaction to the fall of the great Muslim empires to the West. Islamic fundamentalism has a long history, but it has become a significant factor in world events only since the 1970s. Its rise in modern times can be traced back to Egypt in the mid 1950s when Sayyid Qutb rose to prominence after he was arrested with the leadership of the Muslim Brotherhood. Qutb became the principal ideologue of modern Islamists.

Today, with its poor governance, high birth rate, and low productivity, the Muslim world is falling ever further behind the West. Radical Islam traces these failures to excessive modernization—related to the Enlightenment and the scientific world-view, and sees its primary task as reinstating a purely Islamic way of life. It is radical Islam's means of achieving this end that necessitates a dialogue of cultures—in hopes of avoiding a further polarization with a consequent unacceptable choice of options.

The Muslim world was outraged over Benedict XVI's speech in a way that echoed the Danish cartoon controversy. One of the most offensive cartoons was the one showing Mohammad with a bomb on his head—depicting in a most explicit manner what radical Muslims with their suicide bombings have done to the world's perception of Islam. Yet rather than turning on radical Islam, most Muslims missed the message—or feared to publicly condemn the methods of radical Islam, and instead attacked the West, violently and in words, for its insensitivity. And while there is no excuse for actual Western insensitivity when it occurs, the press in Muslim countries routinely depicts Jews and Christians in the vilest ways.

It is doubtful that many of the protestors of Benedict XVI's speech actually read it. The Pope did not condemn Islam as a religion; if there was any condemnation at all, it was of those who, in modern times, continue to believe in Islam's concept of holy war to convert or kill infidels. This is not a fantasy of the Pope or the West, or paranoia induced

by the attacks on the World Trade Center and the Pentagon: In Iraq, Al Qaeda warned Benedict XVI that its war on the West will continue until Islam takes over the world.

All religions believe they have the one correct interpretation of God and that ultimately their view will prevail. But if the majority of Muslims do not believe that "war" is a legitimate way to achieve this end then it is time for them to deal with radical Islam. After all, the division, if indeed it exists as such, is in the Muslim world, and the resolution must come from the Muslim world, from those who believe in an Islam compatible with modernity and civil society. As put by David Brooks of the *New York Times*, "groups of Islamic extremists will continue to compete and grow until mainstream Islamic moderates can establish a more civilized set of criteria for prestige and greatness. Today's extremists are not the product of short-term historical circumstances, but of consciousness and culture. They are not the fault of the United States, but have roots stretching back centuries. They will not suddenly ignore their foe—us—when their hatred of us is the core of their identity."[7]

Muslims have a choice. As put by Johannes Jansen[8] in *The Dual Nature of Islamic Fundamentalism*, "A number of small fundamentalist groups have degenerated into a state of primitive rebellion. Their total lack of doubt concerning God and the Last Things is possibly to be envied, but it cohabits with murderous designs on less favoured Muslims. This desire for murder has received its theological framework from Sayyid Qutb, who . . . died with a smile on his lips. The time may be coming when citizens of the Middle East who are not willing to die smiling will have to decide whether it is worthwhile to die fighting in order to forgo the privilege of being killed by men who are ready to die smiling."

There is no question that Benedict XVI is worried about Islam. And it is perhaps no accident that the Pope chose to quote the 1391 dialogue between the Byzantine emperor Manuel II Paleologus and an educated Persian during one of the Ottoman sieges before the Christian empire fell and Constantinople became Istanbul.

The Pope has publicly doubted that Islam can be accommodated in a pluralistic society, and—as put by Christopher Caldwell[9] in the *Financial Times*: "He has demoted one of John Paul II's leading advisers on the Islamic world and tempered his support for a programme of inter-religious dialogue run by Franciscan monks at Assisi. He has embraced the view of Italian moderates and conservatives that the guiding principle of inter-religious dialogue must be *reciprocità*. That is, he finds it naïve to permit the building of a Saudi-funded mosque, Europe's largest, in Rome, while Muslim countries forbid the construction of churches and missions." One might add that reciprocity should also include a cessation in the vile depiction of Jews and Christians in the press of Islamic countries and in their school books. Surely this would make a positive contribution to the dialogue of cultures.

Islam did not always depict Jews and Christians in a vile manner. Such characterizations, and the rise of "anti-Semitism" in the Arab world began with the introduction of Nazi ideology into the area during the Second World War and was exacerbated by the spread of Wahhabism funded by oil money from Saudi Arabia.

Bernard Lewis, one of the world's eminent scholars in the field of Near Eastern Studies, has characterized Wahhabism as an extremist sect that after the discovery of oil in Saudi Arabia found itself in possession of "wealth beyond the dreams of avarice. As a result, what would otherwise have been a lunatic fringe in a marginal country became a major force in the world of Islam".[10]

The repressive governments in the Arab world, such as the former dictatorship of Saddam Hussein in Iraq, or that of the Assad family in Syria, or the more friendly dictatorship of Mubarak in Egypt, are due to failed early attempts to modernize these societies followed by the disastrous introduction of the centralized Nazi and later Soviet models of governance. Traditional Islamic or Arab societies were quite different. Without this relatively modern history, the possibility of a dialogue between cultures today may have been quite different.

But Benedict XVI seems to have even greater concerns than the dialogue of cultures. Referring to the growing secularization in Europe, he has said in previous writings that Christianity's "model for life is apparently unconvincing". He also believes that Islam's strength is shown by "people's conviction that Islam can provide a valid spiritual foundation to their lives". Given this secularization and the fact that the population growth of Islamic peoples in Europe far exceeds that of others there could be a significant challenge to the Church in the future.

Benedict XVI would thus appear to be worried not so much about the dialogue of cultures, but about the future of the Church in Europe during the next century or more. If Turkey were to join the European Union, and the secular and demographic trends continue, Islam could well become the dominant faith. According to the *Financial Times*,[11] Britian's most senior Roman Catholic questioned Turkey's bid to join the EU. Speaking to the BBC, Cardinal Cormac Murphy-O'Connor, Archbishop of Westminster said, "There may be another view that the mixture of cultures is not a good idea."

In the end, Benedict XVI approach of *reciprocità* must be the basis for whatever dialogue of cultures is still possible. And this means change in the Muslim world. As put by Cardinal Murphy-O'Connor: "The main obstacle to that dialogue is the failure, in a number of Muslim countries, to uphold the principle of religious freedom. . . . It is essential that Muslims can freely worship in Oxford or London, just as it is essential that Christians can freely worship in Riyadh or Kabul. . . . Where Christians are being denied their rights, or are subject to sharia law . . . Where religious rights of minorities are disrespected in the name of Islam, the face of Islam is tarnished elsewhere in the world".[12]

ENDNOTES

[1] Quotes of Pope Benedict XVI are from his lecture at the University of Regensburg, widely available on the internet or at the Vatican website.

[2] Isaiah Berlin, *The Proper Study of Mankind* (Farrar, Straus and Giroux, New York 1998).

[3] Eric R. Kandel, *In Search of Memory* (W. W. Norton & Co., New York 2006).

[4] James Carroll, *Constantine's Sword: The Church and the Jews* (Houghton Mifflin Co., Boston 2001. Before taking up writing as a career, Carroll was a Catholic priest.

[5] Eugene P. Wigner, *Symmetries and Reflections* (Indiana University Press, Bloomington 1967).

[6] Kurt Gödel, *On Formally Undecidable Propositions of Principia Mathematica and Related Systems* (Basic Books, Inc., New York 1962); Ernest Nagel and James R. Newman, *Gödel's Proof* (New York University Press, New York 1960).

[7] David Brooks, *The Grand Delusion* (*New York Times* 28 September 2006).

[8] Johannes J. G. Jansen, *The Dual Nature of Islamic Fundamentalism* (Cornell University Press, Ithaca, New York 1997).

[9] Christopher Caldwell, *A Faith in the Power of Reason* (*Financial Times* 23 September 2006).

[10] Bernard Lewis, *Freedom and Justice in Islam*, *Imprimis*, Vol. 35, No. 9 (September 2006).

[11] Vincent Boland, *Clashes after Turkish Novelist 'Insult' Case is Dismissed* (*Financial Times* 22 September 2006).

[12] *Independent Catholic News* (Oxford, 17 May 2006); available on the internet at http://www.independentcatholicnews.com/chmus239.html.