

(Sermon delivered by the Reverend Theodore M. Hesburgh, C.S.C., President of the University of Notre Dame, at the formal opening of the schoolyear, Sacred Heart Church, Notre Dame, Indiana, Sunday morning, September 22, 1957.)

"At present, we are looking at a confused reflection in a mirror; then we shall see face to face; now, I have only glimpses of knowledge; then, I shall recognize God as He has recognized me." (I Corinthians 13:12)

As each new schoolyear begins, it is my duty and my honor to appear before you and to highlight some of the things we pray for in this inaugural Mass of the Holy Spirit. If one would seek a common theme in my sermons of other years, it would be this: that we are all committed here at Notre Dame to a common task of uncommon importance; that this task must somehow be doubly related, first, to the modern world in which we live, with all its tensions, its agonies, its new developments, and its vivid opportunities. Our task must likewise be related to that ancient wisdom that is ours to transmit, not by blind indoctrination, but with a vital sense of its relevance to the burning questions of our age. I have never said that ours is an easy task, and have indeed underlined some of the difficulties that complicate our activities. You will recall some of these: the explosive growth of knowledge that allows real competence in one field often at the expense of ~~over~~ all, integrated knowledge; then there is the intellectual atmosphere of secularism, an historical reality, that has resulted in a general disdain for theology and philosophy while seemingly more exciting windows of knowledge were and are being opened in other directions; then there has been our oftentimes poor and unenthusiastic comprehension of our own rich heritage, the bright light hidden under the bushel basket, the dull repetition of formulae and the all too frequent lack of burning dedication, enlightened curiosity, and hard unrelenting mental labor that alone can continue the ancient and worthy tradition of Catholic scholarship.

The particular problem that I wish to discuss with you this year is science, in the modern understanding of this word. I shall try to relate science and technology to some of the problems mentioned above. Science is the recognized darling of our day. Being a pragmatic people, we know it from its results - and these have been literally fantastic.

Science has fed us, clothed us, housed us as man has never been fed or clothed or housed before. Science has cured a thousand ills, given clear sight to the myopic, hearing to the deaf. Science has prolonged our lives, speeded our communications, given us wings to lengthen our travels. Science has simplified our housekeeping, has given us amusement at the touch of a button. Science has indeed brought close the ends of the earth, and is now vaulting the space beyond.

Who will dare to say that these are not good things? No one need say this, but it should be said that there are other good and even better things if man does not live by bread alone. Science is most truly valued when it is viewed in the total perspective of man's life and destiny, not as an exclusive blessing. A well-fed, well-clothed, well-housed man can be ignorant, prejudiced, and immoral too. A healthy man can be as unjust as an unhealthy man. A long life is not necessarily good or fruitful. Vastly expanded communications devices do not guarantee that much worthwhile is being communicated, and a world brought close together is not necessarily a world at peace. Simplified

housekeeping does not guarantee happy marriages; easily accessible amusement cannot banish the boredom of a pointless life; and vitamins are no substitute for virtues.

What I am saying is that there are many values that man has cherished, values that have ennobled him, and man stands to lose if he is seduced by the material benefits of science to the exclusion of the deep spiritual values that he cherished long before the advent of modern science and its accompanying technology. We can say this, and still be grateful for the blessing of science. But there is much more to the problem than this initial and superficial comment, particularly when we relate the position of science in the modern world to the cognate problem of university education in a world that is so enamored of science and so indebted to it.

The task of the university today, viewed in relation to its students, is twofold. The university must somehow transmit the intellectual and moral treasures of the past to its students, and, in doing this, must also somehow integrate this heritage to the new perspectives of the present and the future. The first aspect of the task is easier than the second. It is possible merely to speak nostalgically of the past as if the present and its own real problems and opportunities did not exist. It is equally possible to live completely in the present, as in an isolation ward, with no perception of our past heritage, its values and vital human meaning. I suspect that many departments of many universities are doing just one or another of these incomplete tasks and, in so doing, are failing to educate truly.

What is this past that is so often referred to as the culture of the West? It is no simple reality, but an amalgam of many elements. The main currents of influence can be identified however. One finds at the base the great intellectual heritage that stems from the classical age of Greece. Here was the earliest root of the intellectual fibre of the West - the zest for universal understanding and philosophical inquiry, the joy of intellectual discovery, the deep values of things of the spirit: truth, beauty, and the good. The Romans added another dimension to the tapestry of the West, the ideal of law and order, and a stable society of men with great civic institutions and an efficient administration of justice. Then there was the divine element of the Gospels, the fulfillment of the promise of the Old Testament, a new and bright light focused on man's nature and destiny, a fresh glimpse at the inner grandeur of the human person, new ideals of human thought, human achievement and high, indeed, eternal goals for human conduct. These three elements meshed to form what we know as Western culture. From this triple stock, we have derived that rich and complex heritage that is Western man's.

Whatever else man may become in the West in the years ahead, he will be poorer if, in his material progress, he loses the soul of this heritage which is centered in a concept of the human person as never fully understood before - glorying in the truth wherever and however it be found, strong and free under the law, cherishing art and beauty in its multitudinous forms, living by the highest spiritual ideals of the Gospel, dedicated to eternal values for which he is also ready to die, indeed, better to die than to lose them. Respect for all that is uniquely man's, spirit, mind, freedom, truth, justice, beauty - the inner dignity of the human person - this is the heritage of the West that is ours to have and to hold and to teach.

But this is not a static heritage: Truth can have new expression and fuller understanding; justice, new causes to champion; beauty, new forms to inspire. Somehow the university must recomprehend, reinterpret, and re-apply this heritage in every age. The heritage itself may become enriched and revitalized if this is done. If it is not done, the heritage may well become uninspiring, desiccated, devitalized, and even forgotten. Today science must be integrated as a part of this total heritage.

In a university context, the heritage is translated into many diverse disciplines: theology, philosophy, history, law, literature, language, economics, sociology, politics, mathematics, biology, physics, chemistry, geology, engineering. It is these latter, the physical sciences and their applications, that must be understood if they are to be integrated adequately into rich heritage that antedated the present explosive development of the physical sciences. I know not where this integration can take place if not in a university - where all knowledge is communicated and extended in its totality and, one might hope, in proper perspective.

The focus of the university task is perhaps best seen in what it attempts to achieve in the minds and hearts of its students. We have often said at Notre Dame that whatever else we do, we attempt to give all our students the basic elements of a liberal education: one that will liberate the young student from the bondage of ignorance, prejudice, and passion. Our basic endeavor in every undergraduate college is the development to excellence of the student's use of his intelligence and freedom. A liberal education should enable the young man to form a reasonably complete and accurate concept of God, the world and man, some broad perception of man's situation and destiny in this world, and some inner realization of his relationship to God and to his fellow men. One would hope that all this would engender in the student some perspective and conviction so that the young man thus educated could direct his life in accordance with this total view of life's meaning. The really significant questions should be faced during this liberally educative process, the live options should be thoughtfully and even prayerfully considered, so that the maturing student is enabled to make, with an intelligence and freedom worthy of man, the important and difficult decisions that rational life demands. In summary, any education worthy of the riches of our Western culture, should somehow focus on the three great central realities of nature, man, and God.

It is certainly understandable how difficult this task of the University becomes in a world that is essentially secularistic and scientifically oriented in its forward march.

It need not be that the cultural values of man and the eternal importance of divine realities be lost or overshadowed in such a world. But such has been the direction of recent history: growing secularism, the divorce of the human from the divine, the temporal from the eternal, the material from the spiritual; and in the past century, the Nineteenth Century scientists, in large numbers, declared that God and revelation and religion were now irrelevant.

At this present juncture of history, our greatest challenge and opportunity is to understand both the vital importance of our heritage and the growing importance of science, so that working together, instead of at cross purposes, our heritage may be enriched and science may become a fruitful instrument of man, not his master or destroyer. How can this be done?

Science can be a powerful adjunct to the process of liberal education that is at the heart of our mission, for science, too, is one of the liberal arts. No person can be liberally educated today without a reasonable grasp of science and the great new vision of the universe, in its innermost and outermost parts, that modern science has brought us. The scientific method can also bring new and imaginative and corrective insights into the educational process that was poorer without it. The student needs a respect for hard facts, accurately ascertained and expressed. Scientific curiosity, eagerness to postulate theoretical solutions and to verify them experimentally are worthy additions to mental maturity. Scientific speculation in the realms of pure science and mathematics prepares the student mentally for the more abstract studies of philosophy and theology which use intelligent reflection in another method of knowing to derive truths unattainable to physical science as such. Basic science and research may also engender in the student that respect for the mind at work which underlies all rational inquiry and human culture. Disrespect for the mind and the current sneering at intellectuals and intellectual endeavor is the quickest way to the destruction of all human culture. Scientific endeavor is finally a great school for discipline, for humility in the face of the yet unknown, for patience to work accurately, persistently and painstakingly - all real virtues and values in the process of a liberal education.

Science needs the other academic disciplines, too, for there is more to human life than the understanding and manipulation of nature. Science is power, and power needs direction to be meaningful. It is man who is the scientist, and science exists in the world of man. This world has total perspectives and man has a destiny that goes beyond science. Science of itself cannot know God, or the nature of man, cannot establish justice, define morality, constitute culture or write poetry.

In the university, however, all of these things can be done and students can learn all that is true and valid regarding God, man, and nature. The same student can see the broad sweep of revealed truth in theology, and the mind at work on ultimate problems in philosophy, too; he can glory in the intuitive insights of poetry, thrill at the recent discoveries of astrophysics, ponder the age-old lessons of human success and failure in history and literature. Perhaps the integration of all knowledge will somehow come to be in the mind of the student, but how, except accidentally, if few of his professors really understand or appreciate each other's specialized branch of knowledge.

And how can all of the members of the academic community come to some basic understanding and appreciation of the totality of knowledge unless there is a continuing conversation among them on the points of contact between the various disciplines that make up the whole fabric of the universal knowledge.

I would not presume to outline such a conversation in its totality, but it might be helpful to illustrate its possible fruitfulness in one specific area most germane to what we have already been considering.

It is common knowledge that the theologians and the physicists have not been on speaking terms for centuries - so much so that they no longer speak the same language. Their falling out was a classic case of misunderstanding and, unfortunately, the Galileo incident is still regarded as a symbol of the presumed conflict between science and faith.

The climate has now begun to change - and on both sides. The time is ripe to take up a fruitful conversation left aside centuries ago. The lead article in the most recent issue of the best American Catholic theological journal was on "The origin and age of the universe appraised by science." Journals and bulletins of physicists have begun to carry challenging articles of philosophical and theological import. The physicists begin to sense a broader responsibility to the world of nuclear fusion and fission that they have introduced to the brink of great good or great evil. As America's most renowned physicist said after Hiroshima and Nagasaki - the scientist has now known sin, a theological reality.

Much could be gained, I believe, by frankly discussing the conflicts of the past. One might, without too much difficulty, defend the position that most of the conflict has resulted from bad theology and bad science, too.

The fundamental error at the beginning, in the case of Galileo, was that the proper theological questions were not asked. The real theological question involved, was how could this heliocentric doctrine of Copernicus and Galileo be squared with the fundamental Christian doctrine regarding the nature and destiny of man. Actually, there was and is no theological problem involved in the new theory. Instead of asking the proper theological question, however, the heliocentric system was viewed as opposed to a literal interpretation of the early chapters of Genesis, an interpretation which one of the greatest theologians, St. Augustine, would not have accepted centuries before Galileo, and which certainly no scriptural theologian of note would sustain today.

Our present Holy Father, Pius XII, in a recent message to the students of the Sorbonne clearly stated the case:

"In your studies and scientific research rest assured that no contradiction is possible between certain truths of faith and established scientific facts. Nature, no less than revelation, proceeds from God and God cannot contradict Himself. Do not be dismayed if you hear the contrary affirmed insistently, even though research may have to wait for centuries to find the solution of the apparent opposition between science and faith."

Here in two brief phrases is the cause of most of the theologico-scientific disputes of the past: a misunderstanding of "the certain truths of faith" and "established scientific facts." Too often theologians have been all too little precise on what constituted "certain truths of faith." I say theologians, not the Church, which has been consistent and unchanging in its precise official statements of Catholic doctrine. And scientists, especially in the last century, were overconfident, to put it mildly, about "established scientific facts." You are aware of the utterly materialistic Victorian physicists who naively assumed the virtual finality, immutability, and even literal truth of their description of the nature of the world: the billiard ball models, Newton's laws of motion and gravitation, Hooke's law of elastic strain, and all the rest. Since then, we have seen centuries-old scientific views on matter, space and time summarily abandoned.

The latest theories are much more congenial to the corpus of Christian theological doctrine. But let us suppose that present scientific theories may again change in a way that may seem to challenge theological truth. Should this possibility worry us? I think not, and I have no fears from science. Truth is our knowledge of what is, and given a fundamental unity of all that is, and different valid ways of knowing it, the seeming conflicts of today can merge into understanding tomorrow. Let us grant that there has been bad science and bad theology at times in the past. While the fundamental divinely revealed doctrines of the Church have never changed, theological understanding of them has progressed. Science, too, has progressed beyond false starts, and has learned to live with seemingly contradictory theories even within science itself - witness the history of scientific views on the theory of light. I am sure that theologians and physicists can live and work together fruitfully if they will only recognize the nature, the objectives, the limitations, and the methodological diversity of their different disciplines and share the quest along different paths for truth that is one. Science can learn things, such as the age of the earth, that theology as such cannot ever discover - given a lack of divine revelation on the subject. Theology, in turn, can know realities that are and always will be unknown to physical science as such: the notion of God and the good news of His economy of salvation for all the world and His promise of an eternal world to come.

Even Whitehead admitted that the notion of God was the greatest contribution of mediaeval theology to the formation of the scientific movement. You see, the theologian sees God not only as the Supreme Being of omnipotence and freedom, but also as the Source of rationality and order.

While God is free to create or not create a cosmos, and in choosing to create is free to create this cosmos or some other, when He did create this one, it was a cosmos, not a chaos, since it had to reflect His perfection and order. Because God is rational, His work is orderly, and because He is free, there is no predicting on our part as to just what this precise order will be. The world of Christian theism then is, at its foundation, a world congenial to empirical science with its twin method of observation and experiment. Unless there were regularities in this world, there would be nothing but chaos for science to discover, and because these are contingent regularities, they must be verified by experimentation.

One last word, and this one for the scientists. Who can measure the scientific effort and ingenuity that is expended on learning the few fragmentary scientific facts that we think we presently know for a certainty about the universe in its inner constitution and its outermost reaches? And yet, for the most part, scientists seem not too much concerned about the certain promise of divine revelation that for those who live and die in Christ, our Redeemer, there comes at the end of this earthly life the Blessed Vision of God Himself and, in God, all things will be known eternally and, to the limit of our finite powers, comprehensively as in their cause. If this be true, and Catholics everywhere are prepared to die for its truth and promise, then at least it deserves some investigation. I make a point of this, for one of my good scientist friends recently wrote that he knew nothing of immortality and couldn't be less interested. Even as a friend, apart from being a priest, I felt sad that he was spending so much time and energy for such meager gain while completely missing the chance to attain eternally a universal knowledge that is so much greater and more lasting.

So much for a suggested conversation between the physicists and theologians and its possible fruitfulness towards the integration of knowledge. I return, in conclusion, to our original point of departure, something for which we might fruitfully pray at the beginning of this new academic year: that each one of us might cherish the task of seeking and imparting truth in every way possible; that we disdain no truth, be it theological, philosophical, historical, poetic, or scientific; that we ourselves may be examples of the kinds of minds and hearts, the kinds of human persons whom we try to fashion by the educative process; and that we try to appreciate all that is good in the past while we bring its wisdom to bear in directing and giving ultimate meaning to the powerful forces that are awakening in our world today. May God grant that this 115th year of our history will see us grow inwardly in wisdom, age, and grace, as we should, and may the University grow with us, as it most certainly will not grow without us.