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FAITH AND SCIENCE

A Sermon

By

HIS EMINENCE
PATRICK CARDINAL HAYES



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Faith and Science



THE sublime mystery of human life, its origin, its purpose, and its final destiny, is emphasized in every babe as it is born into the world.

Whence has it come, whither is it going? What is human life?

It was only wise and just that a newborn Child should bring from God to men the true solution and proper interpretation of life and its mysteries. God was not satisfied to commission a prophet, or an angel, but He so "loved the world as to send His only begotten Son." The Christ-Child, Whose Nativity the Church commemorates with such inspiring solemnity, is the very "power of God and the wisdom of God"¹ for all men, for all nations, for all time, and for all the progress and the problems of human existence. The Babe of

¹ 1 Cor. i.

Bethlehem descended from above, from beyond the silent stars, to dwell among men on this planet under the firmament of heaven, in order to give "glory to God in the highest and on earth peace to men of good will."

The Church in her liturgy introduces the note of contradiction. The mouth of the venerable Simeon is opened, as he hears the voices of the prophets ringing in his ears, while his eyes pierce the veil of future history. "Behold this Child is set for the fall and for the resurrection of many in Israel and for a sign which shall be contradicted."²

Simeon's Prophecy

Did Simeon see in vision the emperors and the kings, the princes and the peasants, the statesmen and the soldiers, the scientists and the scholars, the churchmen and the sages, the nations and the tribes, that would contradict "the power and the wisdom" of the

² Luke ii

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Christ-Child? A Herod arose immediately on the scene to destroy the life of the Child. Within a generation the Babe would be condemned in the name of religion, by the false witnesses of Caiphas, the High Priest; in the name of worldliness, by the agnosticism of another Herod; and in the name of civil law and justice, by the weak, easy expediency of Pilate, the Roman Governor. We all know that Christ met, with eternal truth, the bigotry before Caiphas adjuring him by the living God; He answered the agnosticism of Herod with divinely eloquent silence; He faced the expediency of Pilate with sublime fortitude and resignation. Christ was not the less divine, the God-man, because His judges were the less human, less than men, bereft of religious, human and legal justice.

Simeon likewise knew of the shepherds who had adored and the wise men from the East who had paid royal tribute to the Child.

Science Leading to Faith

Directly, by the song of angels in the illumined skies, did God announce the glad tidings of great joy to the shepherds, because they were simple folk, unlettered, and not trained to search for the truth. To the Magi how differently was the revelation conveyed and expressed. They were scientific men who scanned the heavens, named the stars, studied the course of the planets, and were wise to interpret the message flashed from God Himself, by the unusually brilliant star that beckoned them to seek further. Their science led them to an act of supreme faith, which, in turn, brought them to the feet of Christ, in Whom are "hidden the treasures of wisdom and knowledge." Science, in the person of the Magi, was present in Bethlehem and offered as a tribute of science for all ages the gold of its own wisdom, the frankincense of its own power, and the myrrh of its own limitation.

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The Magi reasoned wisely, but faith was needed to bring to them the complete and comprehensive message of the star. They sought the newborn King in the palace at Jerusalem, the city of glory, only to find that He had been born in a stable in lowly Bethlehem. They sought information from the priests of the temple, but discovered that only shepherds had gone to Bethlehem. They expected to see a king robed with regal insignia of worldly power, only to behold a helpless Babe as the Prince of Peace. The poverty they witnessed was to their scientific, religious minds but the covering of all the riches of heaven and earth; the apparent weakness was the vesture of omnipotence; the silence of the Babe revealed the mouthpiece of all truth, human and divine.

Minds of the Magi

Bethlehem in their eyes was like a calm lake in the hills on a serene night,

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reflecting in its mirrorlike surface the physical beauty of the stars, while the stars themselves in turn mirrored, in the minds and souls of the Magi, the majesty and the power of their Creator. The Star of Bethlehem indeed justified the Psalmist saying "The heavens show forth the glory of God; and the firmament declareth the work of His hands."³ But even more than that, the Star of Bethlehem led them, because they used wisely and fully their reason and their faith, to the knowledge and the possession of their God and their Savior, a knowledge excelling, without possible comparison, all other knowledge—and a possession than which there is none other more abiding in the heavens above or on the earth beneath. This marvelous revelation they did not communicate to Herod who sought the death of the Child. Warned by heaven of Herod's purpose, they went back another way into their country. Thus

³ Psalm xviii.

their knowledge and their wisdom served their God and not His enemy.

From Visible to Invisible

Happily and significantly has the word "Magi" come down to us throughout the ages as a popular synonym for wisdom and learning. Well has it been translated into English, "wise men." Such as they in ancient times were tutors of kings, the philosophers and the scientists of their day. Wisdom, after all, is the highest purpose of all quest for knowledge. Wisdom has been defined as the "right use of knowledge." Knowledge is but a means to arrive at wisdom. We might say that when we possess wisdom we know the truth and do the right.

A Fashionable Error

It is the fashion of the day to see conflict and contradiction between religion and science. There is a widespread philosophy of the natural world and its phenomena that would have us

believe that the physical universe is a material mass spinning in space and chained to inexorable laws, which grind out the fate of mortals, even as the millstones grind out the corn. Nature is a blind, heartless, impersonal force, self-created and self-conserved, perhaps, eternal. If there be a god at all, then nature itself is that god. Religion, as we know it, is rejected.

To be sure, this may justly be said of only a small minority among outstanding scientists. It is rather, generally speaking, the raw student, the superficial thinker and the atheistic teacher who are largely responsible for the popular vogue with regard to science and religion.

The Height of Wisdom

True religion, on the contrary, reveres true science, proclaims its glory, rejoices at its marvelous unfolding of the beauty and power of nature, accepts gladly its unassailable findings as a

triumph of human reason and human genius, because in all this are made manifest the Supreme Intelligence and the Omnipotent Lordship, God Himself, in Whom all things created "live and move and have their being."⁴ It is merely human knowledge to reveal the material, the mechanical, and the organic forces of the universe; but it is the height of wisdom, it is the perfection of human reason, to use this knowledge as a stepping-stone to higher things. True religion enables us to advance from the visible to the invisible, from the material to the spiritual, from the finite to the infinite. Surely there is here a reasonable indication of advancement in knowledge, in conformity with the spirit of true science.

The Basis of Faith

There is nothing more scientific, in a basic sense, than the acceptance of true Christian faith. If we have the light of

⁴ Acts xvii.

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faith, we have also a sound, reasonable basis for it; otherwise, religion would be superstition. Faith is not a blind act. The intellect goes hand in hand with faith. "Belief is an act of the understanding adhering to Divine Truth."⁵ "Faith is a true assent of the intelligence to truth."⁶ The light of reason is still further illumined by the light of faith. St. Augustine says: "Far be it from us to believe without having a reason and without inquiry; for we could not even believe at all if we have not rational souls." We pronounce our Credo, our faith in the Church's teaching, because we believe, on the credentials that Christ clearly presented to the world, that He was sent of God; that He is God Himself in very truth; that His doctrine is eternal truth; that, as St. John says, "all things were made by Him and without Him was made nothing that was made."⁷

⁵ St. Thomas Aquinas.

⁶ Pius X.

⁷ John i.

“All things”—this refers to natural, preternatural and supernatural truth. By its very essence, truth excludes all possibility of contradiction. Distinction exists with regard to the different orders of truth, but there can be no contradiction, no conflict. Truth, whether it be of the finite or the infinite, whether it be human or divine, has God for its author and God cannot contradict Himself.

The Church Fears Not Truth

The reverence of the Catholic Church for the knowledge of truth and the possession of wisdom takes on the character of almost a cult. It reaches real worship when there is a question of Christ the uncreated wisdom of God made man. The present Holy Father Pope Pius XI recently remarked in answer to a reference to the attitude of the Church towards history, that the one thing the Church had to fear the

least was the truth, historical or otherwise.

The Catholic Attitude

The search for knowledge has enjoyed the patronage and help of the Church from the moment she found herself in a position to be of service. The Church fully understands the words of St. Paul who, writing to the Romans, condemns as "inexcusable" those who fail to rise to the thought of God from a study of the visible world: "For the invisible things of Him from the creation of the world are clearly seen, being understood by the things that are made. His eternal power also and His divinity: so they are inexcusable."⁸ The Catholic Church has never protested against human reason functioning in its proper sphere of action. The Church insists that the scientist sin not intellectually, which he would do, by failing

⁸ Rom. i.

to follow the guide of reason or by ignoring true and solid principles of eternal truth.

Esteem of Science

Pope Leo XIII, after appraising the intellectual evils of modern times, in his Encyclical, *Aeterni Patris*, writes, "Divine Providence itself requires that in calling back the peoples to the paths of faith and salvation, advantage should be taken of human science also—an approved and wise practise which history testifies was observed by the most illustrious Fathers of the Church. They, indeed, were wont neither to belittle nor undervalue the part that reason had to play, as is summed up by the great Augustine when he attributes to this science 'that by which the most wholesome faith is begotten, is nourished, defended and made strong.' Thus it is evident that true religion seeks the assistance of human science, and that the

light of faith does not extinguish the light of human reason, but aids and illumines the latter.

Doctors of the Church

One of the most exceptional and glorious titles the Church confers on outstanding saints of her calendar, noted for learning, erudition and scholarship, is "Doctor of the Church." The names of saintly heroes, without number, are enrolled high in honor on her roster, but among them all there are only some twenty-five, of the eastern and western churches, who have secured the title of "Doctor of the Church." Such were St. Athanasius and St. John Chrysostom, St. Augustine and St. Thomas Aquinas, who, in their sanctification, were especially made perfect in their reason. Reason perfected and sanctified by faith reigned serenely. A study of their extensive and unsurpassable writings will establish this fact. Their outstanding intellectual genius demonstrates that di-

vine revelation goes beyond but never against human reason.

Catholic Leaders of Science

A further evidence of the Church's attitude towards science is unmistakably written in the history of science itself. Could the story of the various departments of scientific progress be told without paying homage to the Catholic names, illustrious and imperishable, by reason of their service to science? Let us look at the names of a few churchmen and laymen of the ancient faith, who adorn the history of science.

Botany, Surgery, Astronomy

Albertus Magnus, Bishop, is the father of botany. Meyer, the historian of botany, says that for three hundred years Albertus Magnus was the greatest authority on botany.

Theodoric, Bishop, was, strange as it may seem, a great surgeon. He left us a

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textbook on surgery which has an account of his own and his father's work, and is one of the important works on the subject. This textbook is still extant.

To Cardinal Nicholas of Cusa we owe the counting of the pulse and timing it in order to differentiate diseases. He was also the first to teach formally that the earth is not the center of the universe but moves in the heavens as the other stars (1456).

Nicolaus Copernicus, the father of modern astronomy, was the canon of a Cathedral. It is not sure whether he was a priest or not, but we do know that he helped his Bishop, Maurice Ferber, keep his diocese in the Catholic Church when dioceses all around were falling away into Lutheranism.

Father Kircher, S.J., was the first to see minute living things with a microscope which he thought were the causes of disease.

Geology and Medicine

Bishop Steno, or Stensen, a Dane, was the founder of geology. When the International Congress of Geologists met in Italy they unveiled a tablet to his memory in which they proclaimed him the founder of their science.

A most notable list of names connected by any bond in the history of science is that of the Papal physicians. The Popes selected the men who were the most prominent in the scientific medicine of their day, to be their personal physician and we have the list of these down the ages.

Father of Modern Pathology

Morgagni is the founder of modern pathology, hailed as such by Virchow, who was himself the greatest of modern pathologists. Morgagni was not a clergyman but he was the father of nine daughters who became nuns, and of a son who became a Jesuit. He rejoiced very much over the fact that his chil-

dren had chosen the better part. Whenever he visited Rome he used to stay by invitation in the Papal palace, for he was the close personal friend of four Popes.

Biology

Abbot Mendel is, perhaps, the greatest name in modern biology. He was a monk who by observation upon the pea plants in his monastery garden, discovered the laws of heredity which have more occupied the minds of biologists in recent years than any other single subject. He was so good a Religious that his fellow monks elected him their Abbot, and he was noted for his piety and devotion to his community.

Theodor Schwann, the father of the cell doctrine, a great founder in biology, refused three invitations to professorships at German universities because he wanted to stay with his Catholic brethren, teaching the Catholic students at Louvain.

Astronomy and Anthropology

The Jesuits have been important contributors to astronomy, to ethnology, and in the modern time to seismology, the science of earthquakes. Literally, many hundreds of books have been written by them on these subjects.

A founder of modern anthropology, so proclaimed by the president of the British Association for the Advancement of Science, was Father John MacEnery, who found traces of the existence of man at the same time with extinct animals in certain caves in England.

Pasteur and Laënnec

Nor should we forget Pasteur, the father of preventive medicine, whose discoveries have saved innumerable lives, nor Laënnec, one of the greatest physicians of all time, the father of our modern knowledge of pulmonary diseases.

No Interference

Surely such names as these refute the imputation that religious belief, and especially Catholic faith, make men sterile in the realm of scientific thought. Our own distinguished scholar, Dr. James J. Walsh, recently stated succinctly the Catholic position: "All that the Catholic is asked to do is to suppress his conceit of knowledge some and wait until he is absolutely sure that what he has is truth and not one of the many guesses at truth. If he does this, he can be quite certain of no interference from his Church but, on the contrary, he will be hailed as a worthy son of the Church for the successful research work that he has accomplished."

Only One Motive Determines Attitude of Church

The attitude of the Catholic Church on all questions and problems, whether religious, scientific, economical, political,

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or social, is determined by one sole motive—and that is, the truth is revealed by God in nature and in faith. “The Church of the living God is the pillar and ground of truth.”⁹ “It shall be called the City of Truth.”¹⁰ “The spirit of Truth will teach you all truth.”¹¹

No Conflict

Is there any substantial reason to believe that the mentality and mind of the Magi at Bethlehem would impair or retard in any way the progress of modern science? The reverence, the humility, the faith of the wise men before their God and their Savior could have brought them nothing but blessing. After all, God has kept faith with science. He never disappoints when His laws of nature are absolutely and fully obeyed. Seeking after natural truth should not deaden or destroy a keen interest in the higher domain of divine truth. All truth should appeal to the scientific mind,

⁹ 1 Tim. iii. ¹⁰ Zac. viii. ¹¹ John xvi.

wherever it is, whether in the heavens above or beyond the stars, or on the earth, or down in its depths—wherever truth is in the vast universe.

The Proper Spirit

If science carries on its research in a spirit of reverential faith in God, faith in man, faith in the universe, faith in that ultimate, wise purpose of all as decreed by the Creator, then nature with all its mysteries and its wonders reflects as in a mirror the power, majesty, beauty and wisdom of God. It also inspires every searcher of natural truth to interpret, by the light of supernatural faith, nature as the door at which nature's God knocks to reveal Himself as the Eternal Father of all mankind. Without such faith science labors in vain—for this world would be only a tomb, the brain of man only clay, and man himself only a corpse, and that forever.

Divine Providence will not permit

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such a curse on the human race which has been redeemed by the Son of God. Rather the human soul cries out in a spirit of ardent faith: "O, the depth of the riches of the wisdom of God and of the knowledge of God! How incomprehensible are His judgments and how unsearchable His ways! For who hath known the mind of the Lord? or who hath been His counsellor? For of Him, and by Him, and in Him, are all things: to Him be glory for ever. Amen." ¹²

¹² Rom. xi.

Catholics Eminent in Science

- AGRICOLA, GEORGE (1494-1555), German; Chemist.
- ALBERTUS, MAGNUS (1206-1280), Swabian; early contributor to botany.
- AMPÈRE (1775-1836), French; Electrician, discovered unit of electric current.
- AUENBRUGGER, LEOPOLD (1722-1807), Austrian; Physician, discovered percussion.
- BARRANDE, JOACHIM (1799-1883), French; Geologist.
- BECCARIA, G. B. (1716-1781), Italian priest; Electrician, founder of atmospheric electricity.
- BECQUEREL, ANTOINE (1788-1878), French; Chemist, a pioneer in electrochemistry.
- BOURGEOIS, LOUIS (1819-1878), French priest; Archeologist.
- BRAMANTE, DONATO (1444-1514), Italian; Architect.
- BRAVO, FRANCISCO (circa 1550), Spaniard; Physician, his "Opera Medicinalia" was the first medical book printed on the American Continent—1570.
- CARNOY, J. B. (1836-1899), Belgian priest; Physiologist.
- CASSINI, GIOVANNI (1625-1712), Italian; Astronomer.
- CASTELLI, BENEDETTO (1577-1644), Italian priest; Mathematician.

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- CAUCHY, AUGUSTIN (1789-1857), French; Mathematician.
- CESALPINO, ANDREA (1519-1603), Italian; Physician and Naturalist, the great botanist of the sixteenth century; wrote a description of circulation of the blood; papal physician.
- CHAPTAL, J. A. (1756-1832), French; Chemist.
- CHEVREUL, M. E. (1786-1889), French; Chemist.
- CLAVIUS, CHRISTOPHER (1538-1612), German priest, S.J.; Astronomer, known as the "Euclid" of the sixteenth century.
- COLOMBO, REALDO (1516-1559), Italian; Anatomist, discovered circulation of blood in lungs.
- COPERNICUS, NICOLAUS (1473-1543), Polish; Astronomer.
- CORRIGAN, SIR DOMINIC (1802-1880), Irish; Physician.
- COULOMB (1736-1806), French; Electrician.
- D'ABRADIE, ANTOINE (1810-1897), French; Geographer and Astronomer.
- DA VINCI, LEONARDO (1452-1519), Italian; Architect, Engineer, Painter, Geologist.
- DUCROST (circa 1870), French priest; Archeologist.
- DE LAPPARENT, ALBERT (1839-1908), French; Geologist.
- DELAUNAY (circa 1850), French priest; Archeologist.

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- DENZA, FRANCESCO (1834-1894), Italian; Astronomer.
- D'OMALIUS (1783-1875), French; Geologist.
- DE ROSSI (1822-1894), Italian; Archeologist, founder of Christian archeology.
- DUMAS, J. B. (1800-1884), French; Chemist.
- DWIGHT, THOMAS (1843-1911), American; Anatomist (Harvard).
- EUSTACHIUS (+ 1574), Italian; Anatomist; Eustachian tube is named after him; papal physician.
- FABRI, HONORÉ (1607-1688), French priest, S.J.; Mathematician and Physicist.
- FATREILLE, PIERRE ANDRE (1762-1833), French priest; Zoölogist.
- FRACASTORIO (1483-1553), Italian; Astronomer, Pathologist, Geologist, first to point out magnetic poles.
- GALVANI (1737-1798), Italian; Electrician, gave the world galvanized iron and the Galvanic Battery.
- GIOJA (circa 1300), Italian; Pioneer of scientific navigation and perfecter of Mariner's Compass. Name is fictitious.
- GIOJA, MELCHIORRE (1767-1829), Italian; Political Economist.
- GORDON, ANDREW (1712-1751), Scotch priest; Electrician, inventor of first practical friction machine.

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- DE CHAULIAC, GUY (1310-1380), French; Anatomist, wrote a textbook on surgery.
- HAÜY, RENE-JUST (1743-1822), French; Mineralogist, discovered pyroelectricity.
- HEIS, EDWARD (1806-1877), German; Astronomer.
- HENRY OF MONDEVILLE (circa 1250), French; Surgeon.
- HERMITE, CHARLES (1822-1901), French; Mathematician.
- HEUDE, PETRUS (1836-1902), French priest, S.J.; Zoölogist.
- KIRCHER, ATHANASIUS (1601-1680), German priest, S.J.; Microscopist.
- KOLLER, M. W. (1792-1866), Austrian priest; Astronomer.
- LAËNNEC, RENÉ THEODORE (1781-1826), French; Physician, pioneer in physical diagnosis, discoverer of Stethoscope, worked at meaning of auscultation.
- LAMARCK (1744-1829), French; Evolutionist, a generation before Darwin.
- LANFRANCHI (circa 1250), Italian; Surgeon.
- LATREILLE (1762-1833), French priest; Entomologist.
- LAVOISIER (1743-1794), French; Chemist, pioneer of modern chemistry.
- LE VERRIER (1811-1877), French; Astronomer, discovered planet Neptune.

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- LINACRE, THOMAS (1460-1524), English; Physician. Became a priest.
- LONEN, K. A. (1841-1893), German; Evolutionist and Geologist.
- MACENERY, JOHN (1795-), Priest; Anthropologist, pioneer in paleontological anthropology.
- MALPIGHI, MARCELLO (1628-1694), Italian; Anatomist, discoverer of Malpighian tubes.
- MAYER, C. (1719-1783), Moravian priest, S.J.; Astronomer.
- MELLONI (1798-1854), Italian; Electrician, founder of thermoelectricity.
- MENDEL (1822-1884), Austrian priest; Biologist, one of the most important names in modern biology.
- MIVART, ST. GEORGE (1827-1900), English; Naturalist.
- MONDINO (1275-1327), Italian; Anatomist, author of first dissection manual.
- MORGAGNI (1682-1771), Italian; Pathologist, pioneer in modern pathology.
- MÜLLER, CLAUDE BERNARD (1813-1878), French; Physiologist.
- MÜLLER, JOHANN (1436-1476), German priest; Mathematician and Astronomer.
- MÜLLER, JOHANN (1801-1858), German; Physiologist and Comparative Anatomist.

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- MURPHY, JOHN B. (1857-1916), American; Surgeon, among greatest in the United States.
- NICHOLAS OF CUSA (1401-1464), German Cardinal; Mathematician and Physician.
- PARÉ, AMBROISE (1517-1590), French; Surgeon.
- PASTEUR, LOUIS (1822-1895), French; Chemist.
- PIAZZI, GIUSEPPE (1746-1826), Italian priest; Astronomer, discovered Ceres.
- PITARD (circa 1279), French; Surgeon.
- PITRA, J. B. (1812-1889), Italian Cardinal; Archeologist.
- PARACELSUS (1493-1541), German; Physician and reformer of therapeutics.
- RICCIOLI, GIOVANNI (1598-1671), Italian priest, S.J.; Astronomer.
- RÖNTGEN, WILHELM KONRAD (1845-1923), German; Physicist.
- SCHEINER, CHRISTOPHER (1575-1650), German priest, S.J.; Astronomer, first noted sun-spots.
- SCHWANN, THEODOR (1810-1882), German; Physiologist, discoverer of cell theory in medicine.
- SECCHI, ANGELO (1818-1878), Italian priest, S.J.; Astronomer.
- SPALLANZANI, LAZZARO (1729-1799), Italian priest; Biologist, most distinguished of eighteenth century.

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- STENSEN (1638-1686), Danish Bishop; Geologist and Anatomist.
- VAROLI, COSTANZO (1543-1575), Italian; Anatomist, papal physician.
- VAUQUELIN, LOUIS (1763-1829), French; Chemist.
- VESALIUS, ANDREAS (1514-1564), Belgian; Anatomist, first to start investigation in the examination of the structure of the human body.
- VOLTA, A. (1745-1827), Italian; Physicist. Word "volt" comes from his name.
- VON FUCHS, JOHANN (1774-1856), German; Mineralogist.
- VON KLEIST (circa 1745), Pomeranian priest; discovered principle of Leyden Jar.
- VON LAMONT, JOHANN (1805-1879), German; Astronomer.
- WAAGEN, WILHELM (1841-1900), German; Paleontologist and Geologist.
- WILLIAM OF SALICET (circa 1275), Italian; Surgeon.

