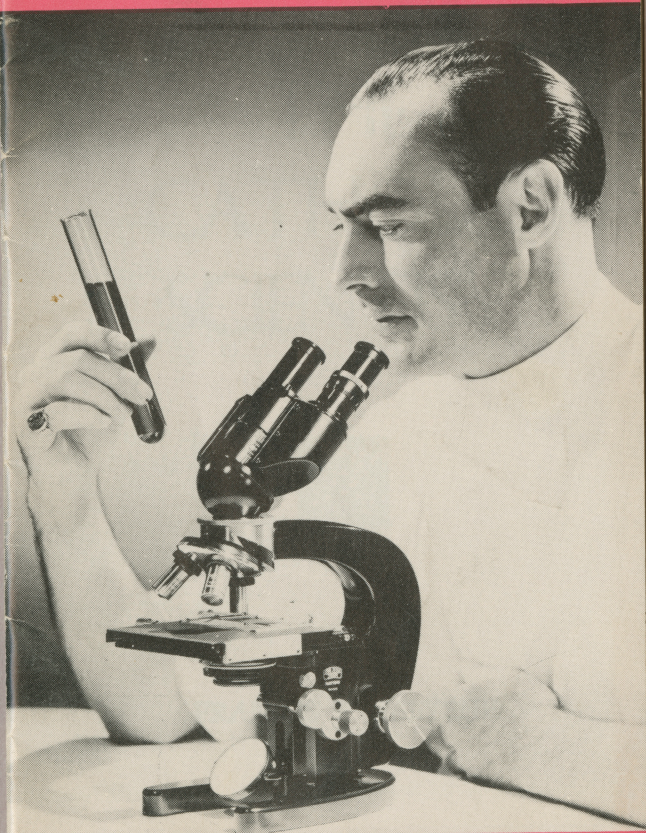
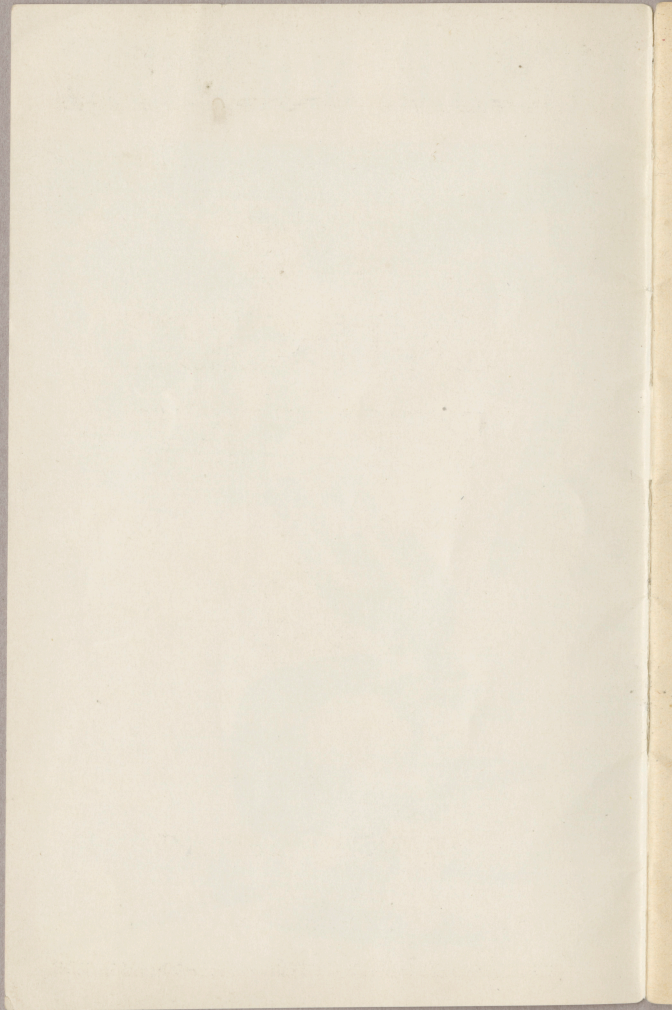


CATHOLIC SCIENTISTS





THE
CATHOLIC
SCIENTIST



by

FRANCIS J. HELTSHE

SPEC
CAPAM

THE
CATHOLIC
SCIENTIST



FRANCIS J. HEITZHE

THE CATHOLIC SCIENTIST

by

FRANCIS J. HELTSHE

HAVE you ever heard the remark made that the Catholic Church has blocked and viewed with hostility the progress of art, literature and science? Have you come to believe, not knowing anything definite exactly, but more as a result of stories heard from time to time over the years that the Catholic Church discourages its followers from the conducting of great experiments; that it views both science and scientists with fear and distrust; that its sons are warned not to read scientific works for fear that through science the folly of their beliefs might come to light with a subsequent turn from the Faith?

I know that I have heard such remarks, and that friends who have come to me with myriad questions trembling upon their lips have heard them and half

believed, so willing seems perverse human nature to give credence to any story, however fantastic, that may be circulated to the discredit of the Roman faith. Believe me, these stories are mere libels, oft-repeated, but nonetheless as often false.

Undeniable historical facts show us that quite to the contrary the masterpieces of each and every division of civilization are but the result of the inspiration Catholic Faith and the Catholic Church has given to the great masters . . . to the artists, writers and scientists beyond compare who have been numbered among the most faithful sons of the Catholic Church of Rome.

To say that these Catholics were great artists or scientists, inventors or writers, despite the influence and warnings of Holy Mother Church is like saying of your auto that it has negotiated a steep grade despite the weight of the engine that drives it. That the Church herself has been foremost in encouraging and guiding the genius of her great sons is discovered when one considers that more than sixty seats of scientific learning, all of them world-famous, were either established by the Popes themselves or with their approval.

Among them are numbered the great universities of Aberdeen, Basel, Berges, Bologna, Bordeaux and Cahors; those at Oxford and Cambridge; at Coimbra, Cologne, Copenhagen, and Cracow; the University of Dublin and the renowned institutions at Drogheda, Erfurt, Florence, Frieberg, Glasgow and Grenoble. The universities at Greifswalds, Heidelberg, Huesca, Ingolstadt and Leipzig; those at Lerida, Lima, Louvain, Mainz, Nantes, Naples, Ofen, Orleans, Padua, Paris, Pavia, Perugia, Pracenza, Prague and Poitiers; and, Rome, Rostock, St. Andrew, Salamanca, Seville, Siena, Santo Domingo, Tubingen, Toulouse, Turin, Trevisio, Trier, Upsala, Valence, Valencia, Valladolid, Vercelli and Vienna. The famous Catholic University of America at Washington, the Institutum Divi Thomae, with principal laboratories in Cincinnati, Ohio, and the great scientific schools at Wittenberg and Wurzburg and many others.

Beyond this, perhaps the most exacting of all sciences is that of Theology, the Science of Faith. And when one considers the astounding fact that from the Year 1109 A.D. when theological studies began first to be systematically pursued, to the beginning of the 20th Century,

there had flourished within the fold of the Catholic Church more than 12,000 theological writers whose work all Christendom readily admits has never been equalled or excelled, one begins to see that Science could not be anathema to Catholicism. Similarly one might remark upon an equal number of Catholic writers who have excelled in the field of mental philosophy, second only to theology in excellence among the sciences, superior to the natural sciences as the soul is superior to the body of man.

Consider for a moment that Galileo was a devout Catholic to the last day of his life; that the Catholic Church was for a time skeptical as to the validity of his work and claims. Did the Church, by virtue of such doubt, deny to Galileo his instruments, his measures, his tools? The answer is that the Church, to the contrary, saw to it that even while condemnation proceedings were instituted against him, he was given every opportunity and means, by the Church to pursue his experiments. It must not be forgotten that, while there was as yet no sufficient proof of the Copernican system, defended by Galileo, no objection was made to its being taught as an hypothesis which explained all phenomena

in a simpler manner than the Ptolemaic, and might, for all practical purposes be adopted by astronomers. When, in 1624, Galileo visited Rome, he met with what is rightly described as "a noble and generous reception." Urban VIII, who, as Cardinal Barberini, had been his friend and had opposed his condemnation in 1616, conferred on his visitor a pension, to which as a foreigner in Rome Galileo had no claim, and which, says Brewster, must be regarded as an endowment of Science itself.

Encouraged by Catholic teachers, Salvino degli Armati, a devout Catholic, developed spectacles and lenses in the year 1280 to assist human vision. Galvani and Volta¹ discovered and made clear the continuous current of electric energy which was the foundation of the telegraph and the telephone. The barometer came from the mind of Evangelista Torricelli in the seventeenth century. All of these men were devout sons of the Church and received Catholic training as the prelude to their successful scientific experimentations.

A great Catholic physiologist, Bellingeri, discovered the double set of nerves in the human body, one for mo-

1. The volt, unit of electromotive force, is named after Volta.

tion and one for sensation; the Theatine Monk, Piazzi, discoverer of the first planetoid Ceres, gave the world the first perfect catalogue of the then known stars in 1788; the Mariner's Compass was perfected by Flavio Gioia, stalwart son of the Church, at Amalfi, in the 14th century; the printing press came from the hand and mind of the Catholic Gutenberg in the 15th century, while fire-arms owe their origin to the Catholic Monk, Berthold Schwarz, who invented them in the 13th century.

Daguerre and Niepce, fellow Catholics, in the 1850's contributed most to the discovery of photography, while the camera obscura came from the brain of Gianbattista della Porta two centuries before. The magic lantern, which led to the portrayals of the majestic human cavalcade on the silver screen . . . to the creation of Hollywood and the spectacles there created . . . was developed by the Jesuit Father Athanasius Kircher in 1680. Electric light, opening a whole new era of discovery, was first made practical by the Catholic Leon Foucault, who in 1844 gave the world the first practical electric arc light.

On and on we might read through the

galaxy of the greats, until the glory of having given to the world many of its greatest and more important scientific truths seems to belong exclusively to Catholicity . . . From Bartholomeus Angelicus (fl 1230 - 1250), the English Franciscan, who wrote the first great medieval encyclopedia of science to Father Julius Arthur Nieuwland, chemist and botanist at Notre Dame University, discoverer of a method for production at low cost of synthetic rubber. From clocks, the invention of three monks, Gerbert, Pacifico of Verona, and Abbott William Hirschau in the year 999, to the devout Catholic, Louis Pasteur of the 19th century, father of bacteriology, famed for his vaccine against hydrophobia, for successfully combating the silkworm disease and for pasteurization.

The storage battery by Gaston Plante in 1859, the principle of the hydraulic press by Blaise Pascal in 1647, the Torsion-Balance electrometer for accurate measurements by Coulomb in 1806, all advancing the progress of civilization by untold measures of time were the works of Catholics.

The famous Cardinal Wiseman once delivered an address before the Catholic

Literary Society of Leeds, England, in which he said with regard to scientific progress: "... a phenomenon has, perhaps, been lying before the unseeing eyes of mankind for centuries . . . perhaps for thousands of years. During this period it has passed unobserved. Finally comes the happy genius who sees in it a great truth, principle, or law, and the world is given the germ of another most important discovery. That happy genius is entitled to consideration as the inventor or discoverer, although what he has given in imperfect form may, through the work of a second genius, acquire greater perfection. The Catholic Church may justly claim among its sons a preponderance of both types."

There were, in such state, the laws of Crystallography, for example, dormant and unknown until produced by a humble priest, the Abbe Hauy in the early 19th century.

And then there was the great genius of the Catholic Gregor Johann Mendel, Augustinian priest and biologist, author of Mendel's law of heredity, which lays the very foundations of modern genetics, and so of all modern biology; and Marconi whose

wireless telegraphy led surely to the radio marvels of this latter-day age of light metals and plastics.

Nor can we pass by without mentioning such immortals as Ampere, Becquerel, Blot, Copernicus, Fresnel, Grimaldi, Malpighi, Malus, Mariotte, Morgagni, Schubert, Valentine, Wagner, and the myriad other great masters whom the mention of these few calls to mind. And above and beyond them all, perhaps one will remember Leonardo da Vinci . . . da Vinci, master of masters of the Italian period of the great Renaissance of human thought.

Metaphysics, following the whole field in its broad aspects, is almost exclusively a Catholic science. The work of St. Thomas Aquinas alone offsets the work of all latter day metaphysicians, including that of the renowned German masters. Dante, Petrarch, Boccaccio, Tasso, Arisoto, all were devout Catholic Christians. And in the history of mankind it is recorded that when this earthly parade fell to its lowest depth, when morals and hopes alike were at lowest ebb, it was the great and immortal Francisco Petrarch who snatched it back with his deathless compilations in the Italian, "Trionfi" and the

"Canzoniere," by his penning of his "Carmen bucolicum" in twelve eclogues, his "Epistolae metricae" in three books of hexameters, and his dialogues with St. Augustine (*De contemptu mundi*) to awaken a world from its pagan dreams.

Catholic mathematicians gave the world Analytical Geometry,¹ proved the Binomial Theorem,² solved the Cubic Equation,³ invented the Calculus of Residues,⁴ and discovered the method of resolving equations of the fourth degree;⁵ also the reformed calendar and the counterpoint, equivalent to a new creation in music.

The great maritime adventurers, striking out from the North with bold Viking songs on their lips were all Catholics. The great navigators, so perfecting the science as to lead to the discovery of new worlds and ever-opening frontiers . . . finding the Cape of Good Hope and the New World were sons of the Catholic Church. Lief Ericson, skirting the Nordic shores, striking through unknown seas ever westward

-
1. Rene Descartes (1596-1650)
 2. Bernard Bolzano (1781-1848)
 3. Girolamo Cardan (1501-1576)
 4. Augustin Louis Cauchy (1789-1857)
 5. Ludovici Ferrari (Born 1522-)

with his Catholic monks by his side came first to America. Columbus and his caravel, invoking the blessing of God and the Pope, struck out across the uncharted wastes of the Atlantic, braving superstition and fear and all manner of danger to come first upon the southern isles. Ferdinand Magellan, stout seaman with the dauntless spirit in the heart of him and songs of his sun-kissed vineyards upon his lips first circumnavigated the terrestrial globe, sailing through all of its seas, viewing all of its wave-washed shores and the signet at his mast was always the Cross of Christ and the Catholic Church.

In the great industrial fields which brought civilization to its highest level, the application of all of the great scientific truths was first fostered by Catholics and the Catholic Church.

Consider then the field of architecture, whether as an art or science, can it be truthfully stated that the Catholic Church has known a peer in its perfection? The Gothic architecture of Rome has been at once the admiration and despair of all of our modern architects and the glorious old cathedrals of Europe stand as perpetual challenges to the inventive genius of man and as

monuments to the science and skill of their Catholic builders.

The first museum known was the one established at the Vatican in Rome; the first botanical garden was a Catholic creation, at Pisa in 1543; and the first newspaper ever published left a Catholic press at Venice in 1562. Catholics founded the first Scientific Society at Naples, in 1560, and the first bank, at Venice, in the 12th century.

Sometimes one will encounter an objection to the science of faith . . . that there is no progress in it. Actually, dogmatic theology may appear quite the most rigid of the branches of this science, but even in it, after a passage of time, we find better definitions, better understandings, deeper and more thorough knowledge of the dogmas in their relations with one another and with history. As a matter of fact, Canon law has not only kept abreast of civil law, but has gone far beyond it in the scientific realm. Progress has always been marked in the biblical, historical and pastoral disciplines. As far back as the 5th century St. Vincent of Lerins, commenting on the question of whether or not there should be progress of religion in the Catholic Church, said: "Certainly

let there be progress, and as much as may be . . . but so that it be really progress in the faith, not an alteration of it."

Science that is changed is not progressing, but abandoned, rather, and so it is with faith. The argument that the great scientists have been largely atheistic is blasted into nothingness when one understands that up to the time of Voltaire and Rousseau, and during the eras in which nearly all the great Principles were discovered, the greatest of the scientists, to a man, spoke with great reverence of God and his Creation.

Hereafter, in hearing the false and malicious libel . . . "No one of the arts or sciences has escaped the anathemas of Rome!" one could not do better than to bear in mind the expression of the great English statesman and scholar, William Gladstone, who upon hearing that identical libel, replied:

"Since the first three hundred years of persecution, the Roman Catholic Church has marched for fifteen centuries at the head of human civilization, and has driven, harnessed to its chariot as the horses of a triumphal car, the chief intellectual and material forces of the world; its genius, the genius of the

world; its greatness, glory and grandeur and majesty have been almost, though not absolutely, all that in these respects the world has had to boast of."



THIS IS PAMPHLET NO. 13

Published By
THE CATHOLIC INFORMATION SOCIETY
214 West 31st St., New York 1, N. Y.
(OPPOSITE PENN TERMINAL)

4602988

PRINTED
IN
U.S.A.



NEVER DESTROY GOOD PRINT.
Pass It from Person to Person. Thanks!