CATHOLIC Q & A
Volume 5 Issue 2 February 2006

What impact did the Catholic Church have on Western Civilization? (Part 2)

In addition to scholarly and cultural pursuits, medieval monasteries also cultivated the practical arts. Agriculture is a particularly significant example. The monks converted the wilderness into a cultivated country; they cleared forests, they managed to dike and drain the swamps and turned a landscape that had been a source of disease and filth into fertile agricultural land.

Wherever they went, the monks introduced crops, industries or production methods with which the people had not been previously familiar. They would introduce the rearing of cattle and horses, the brewing of beer, the raising of bees or the growing of fruit. In Sweden, the corn trade owed its existence to the monks; in Italy it was cheese making; in Ireland, salmon fisheries-and in a great many places, the finest vineyards. Monks stored up the waters from springs in order to distribute them in times of drought and they were also the first to work toward improving cattle breeds, rather than leaving the process to chance.

The monks also pioneered in the production of wine, which they used both for the celebration of Holy Mass and for ordinary consumption. In addition, the discovery of champagne can be traced to Dom Perignon of St. Peter's Abbey, who in 1688 developed champagne through experimentation with blending wines.

The Cistercians, a reform-minded Benedictine order established in France in 1098, are especially known for their technological sophistication. These monks used waterpower for crushing wheat, sieving flower, fulling cloth, and tanning. The Cistercians were also known for their skill in metallurgy. Every monastery had a model factory in which waterpower drove the machinery of the various industries located on its floor.

Monastic accomplishments ranged from interesting curiosities to the intensely practical. In the early eleventh century, a monk named Eilmer flew more than 600 feet with a glider. The monks also were skillful clock-makers. Peter Lightfoot, a fourteenth- century monk of Glastonbury, built one of the oldest clocks still in existence, which now sits, in excellent condition, in London's Science Museum.

The monastic contribution with which many people are familiar is the copying of manuscripts, both sacred and profane. The monks were responsible for carefully preserving the works of the classical world, the works of the early Church fathers and most importantly the Sacred Scriptures. Without their devotion to this crucial task and the numerous copies they produced, it is not clear how the Bible would have survived the onslaught of the barbarians.

The monks were also teachers who were instrumental in establishing schools in their monasteries. St. Boniface established a school in every monastery he founded in Germany, and in England Saint Augustine and his monks set up schools wherever they went. The monks not only established schools, but also were the schoolmasters in them. They were the thinkers and the philosophers of the day and laid the foundations for the establishment of the university.

The university was an utterly new phenomenon in European history. Nothing like it had existed in ancient Greece or Rome. The institution that we recognize today, with its faculties, courses of study, examinations, and degrees, as well as the distinction between undergraduate and graduate study, comes to us directly from the medieval world. The Church developed the university system because it was the only institution in Europe that showed consistent interest in the preservation and cultivation of knowledge.

The exact dates for the appearance of universities at Paris, Bologna, Oxford and Cambridge cannot be cited because they evolved over a period of time. But we may safely say that they began taking form during the latter half of the twelfth century.

The creation of the university, the commitment to reason and rational argument, and the overall spirit of inquiry that characterized medieval intellectual life laid the foundations for the modern empirical sciences. This amounted to a gift from the Latin Middle Ages to the modern world…. though it is a gift that may never be acknowledged. Perhaps it will always retain the status it has had for the past four centuries as the best-kept secret of Western civilization. It was a gift of the civilization whose center was the Catholic Church.

It is not coincidental that the birth of science as a self-perpetuating field of intellectual endeavor should have occurred in a Catholic culture. Certain fundamental Christian ideas were necessary for the

emergence of scientific thought. The belief of a transcendent Creator who endowed his creation with consistent physical laws denies pantheism and permits the Christian to apply the scientific method to an ordered and predictable universe.

It is a relatively simple matter to show that many great scientists, like Louis Pasteur, have been Catholic. Much more revealing, however, is the surprising number of Catholic churchmen, priests in particular, whose scientific work has been so extensive and significant.

Roger Bacon, a Franciscan who taught at Oxford in the 13th century, was admired for his work in mathematics and optics, and is considered to be a forerunner of the modern scientific method. St. Albert the Great (c. 1200-1280) was a renowned naturalist who insisted on direct observation in the acquisition of knowledge. He explained that the aim of natural science was not to simply accept the statement of others on faith but to investigate the causes that are at work in nature.

Fr. Nicolaus Steno (1638-1686) has been credited with setting down most of the principles of modern geology and has sometimes been called the father of stratigraphy (the study of the strata, or layers, of the earth).

The great bulk of Catholic priests interested in the sciences came from the religious order founded by Ignatius of Loyola in the 16th century – the Society of Jesus (the Jesuits). They had contributed to the development of pendulum clocks, pantographs, barometers, reflecting telescopes and microscopes, to the scientific fields as various as magnetism, optics and electricity. They observed, in some cases before anyone else, the colored bands on Jupiter's surface. They theorized about the circulation of the blood, the theoretical possibility of flight, the way the moon affected the tides, and the wave-like nature of light. All these were typical Jesuit achievements, and scientists as influential as Fermat, Huygens, Leibniz and Newton were not alone in counting Jesuits among their most prized correspondents.

One of the greatest Jesuit scientists was Father Roger Boscovich (1711-1787). He developed the first geometric method for calculating a planet's orbit based on three observations of its position. Fr. Boscovich gave the first coherent description of an atomic theory, well over a century before modern atomic theory emerged and is considered the true creator of fundamental atomic physics, as we understand it.

The Church also exerted its influence on the development of international law. Laws governing the interaction of states had remained vague throughout the years, and had never been articulated in any clear way.

The origins of international law began in the 16th century with the debate over the mistreatment of Native American peoples by the European conquerors. Catholic theologians in Spain held the behavior of their own civilization up to critical scrutiny and found it wanting. The Catholic conception of the fundamental unity of the human race informed the deliberations of the great 16th century Spanish theologians who insisted on universal principles that must govern the interaction of states. They proposed that in matters of natural right, the other peoples of the world were their equals and that the commonwealths of pagan peoples were entitled to the same treatment that the nations of Christian Europe accorded to one another.

The spirit of Catholic charity had an immeasurable impact on our civilization. In the ages of antiquity, charity was dictated much more by policy than by benevolence. The spirit of giving in the ancient world was self-interested rather than purely gratuitous. Donors gave what they did in order to put recipients in their debt or to call attention to themselves.

The practice of offering oblations to the poor developed early in the Church. The early Church also institutionalized the care of widows and orphans and saw after the needs of the sick, especially during epidemics. By the fourth century the Church began to sponsor the establishment of hospitals on a large scale, such that nearly every major city ultimately had one.

The Catholic Church began to systematize its canon law in the twelfth and thirteenth century, which then laid the foundations for the development of Western law in such areas as marriage, property, and inheritance. Canon law acted as a model which introduced rational trial procedures, the insistence upon consent as the foundation of marriage and upon wrongful intent as the basis of crime; the development of equity to protect the poor and helpless against the rich and powerful. The Church's influence on the legal systems and legal thought of the West extends also to the development of the idea of natural rights.

Source: *How the Catholic Church Built Western Civilization by Thomas E. Woods, Jr., Ph.D.*

Michael Dosen