

COSMOLOGY without HEADACHES

(Lecture Series)

(compiling, transcribing, researching, editing always in progress)

LECTURE X: Charlemagne and the Revived Empire; Gothic Cathedrals and the Opening of the Mind to Infinity; Islamic Influence on Western Thought

A coin of Charlemagne with the inscription *KAROLVS IMP AVG* ("Carolus Imperator Augustus")

Discuss readings for Averroës & Maimonides from PHILOSOPHY IN THE MIDDLE AGES
(handed out at last lecture)



Charlemagne, by Albrecht Dürer

The Western world did not go completely dark after the fall of Rome. The growth of monasteries, used by many for sheer escape from the bleakness and uncertainty of their lives, provided space for quiet contemplation and provoked the brilliance of the illuminated manuscripts, as if signaling that philosophy and ancient science was still alive, merely hibernating in those musky libraries. Here and there a thoughtful eye opened and a glimmer of reason pierced momentarily through the Church's protective cowl. One such notable was **Johannes Scotus Eriugena** [815-877] (literally, somewhat redundantly, John the Irishman Born in Erin), who is generally known as 'Erigena.'

Erigena, despite impressive learning and his mastery of Greek and the classics, may not have been an ecclesiastic. Having come to the court of Charles the Bald in the 840s, at the apogee of the Palace School begun by Charlemagne, Erigena was asked by Archbishop Hincmar to write a reply to some extreme ideas of a German monk named Gottschalk. Friar Gottschalk preached pure predestination, based on God's omniscience, thus denying humans free will. In denying such a doctrine, Erigena included a very forward-looking recommendation of science. Here is a portion of

Erigena's response:

"In earnestly investigating and attempting to discover the reason of all things, every means of attaining to a pious and perfect doctrine lies in that science and discipline which the Greeks call philosophy"

"In effect," says Will Durant, "the book denied predestination; the will is free in both God and man; God does not know evil, for if He knew it, He would be the cause of it. The answer was more heretical than Gottschalk's, and was condemned by two church councils in 855 and 859. Fr. Gottschalk was confined in a monastery till his death, but the King protected Erigena."

In 854 the emperor of the Eastern empire, Michael the Stammerer, sent a Greek manuscript entitled *THE CELESTIAL HIERARCHY* to Louis the Pious. The author, it was believed, was the legendary Dionysius the Areopagite. At St. Denis (named, ironically, after the ancient Dionysius—his Latinized and sainted name) no one could translate it. Louis asked Erigena to investigate it. His translation revealed a 5th century force in

Christianity (who later became known as Pseudo-Dionysius) who had helped re-establish Neoplatonism (if only unofficially) in connection with Christian theology: a universe 'emanating' from God, gradually corrupted by imperfection but, ultimately, saved by His grace, thus to be re-absorbed into the Super-Essence.

"This became the central idea of John's own masterpiece," says Durant, "*De divisione naturae* (867)":

Here, amid much nonsense, and two centuries before Abélard, is a bold subjection of theology and revelation to reason, and an attempt to reconcile Christianity with Greek philosophy. John [Erigena] accepts the authority of the Bible; but since its sense is often obscure, it must be interpreted by reason—usually by symbolism or allegory. "Authority," says Erigena, "sometimes proceeds from reason, but reason never from authority. For all authority that is not approved by true reason seems weak. But true reason, since it rests on its own strength, needs no reinforcement by any authority." [and] "We should not allege the opinions of the holy Fathers ... unless it be necessary thereby to strengthen arguments in the eyes of men who, unskillful in reasoning, yield rather to authority than to reason" Here is the Age of Reason moving in the womb of the Age of Faith.

[Quotes from Durant: AGE OF FAITH; ch.XIX, 'The Decline of the West;' pp.477-488
(quoting *DE DIVISIONE NATURAE* by Erigena)]

By 700 Constantinople had long been the principal world-city. In the west, in Europe, while the time before Charlemagne was a period of darkness, profligacy, and misery, there were signs of progress. By the mid-8th century beds had become popular in France and Germany, and hops was used to make beer in Bavaria, and, for those interested in landmarks of music history, here began Gregorian chant in Germany, France, and England, and the replacement of water organs with the latest in wind organs from Byzantium. Also in 750, King Childeric III was deposed [last of the Merovingians] and replaced by Charlemagne's dad, Pepin the Short. In 782, for their refusal to convert, Charlemagne executed 4500 Saxon hostages at Verden, and Alcuin left his monastery at York to aid Charlemagne's revival of education(!). About the same time (780), in the East, a royal woman deposed her son and became virtual ruler of the Byzantine Empire, Irene, and quickly restored image worship. In 791 her son, another hopeful 'Constantine,' overthrew and imprisoned her for her cruelty, but in 792 Irene regained power, blinded her son (perhaps to point up his opposition to images), and proposed marriage to Charlemagne (or did Charlemagne make the move?): a vain attempt to heal the schism. Could it have worked? Extremely unlikely considering the differences that had arisen between Eastern and Western versions of the once pagan Roman Empire—not to mention the potential heresies that would have to be cooperatively patched up (or violently extinguished). But they did not marry. Perhaps Charlemagne recognizing the potential danger from such a vindictive, power hungry soul (later canonized by the Greek Church).

At the beginning of the 9th century, then, comes the official revival of the Western Roman Empire as Charlemagne, far and away the greatest man of this age, is crowned Emperor by Pope Leo III (800). Charlemagne was not particularly pleased about that. It may have been Leo's idea: a surprise gift for the great king, but also the means by which the Church would claim suzerainty over Christian political leaders for centuries to come.

In 801 Charlemagne prohibits prostitution. Arabs begin using Indian numerals including zero in 814. In that same year Charlemagne dies and the Western Empire

begins another regression. The works of Greek science and philosophy had become available in the Arab world, but only to a few serious scholars. Ease of calculation is advanced, and Islam becomes a better friend of science than Christianity in the West. Even so, while merchants benefited in bookkeeping, science did not really advance (other than the invention of algebraic notation and improvements in accuracy in astronomy and geography)—in fact it never reached even the heights attained by the Greeks of the time of Archimedes. Though such as Ptolemy's cosmic picture and Euclidian geometry were preserved by Arabic translations (and many works were also protected relatively undisturbed in European monasteries), in both cultures there was much more interest in astrology than astronomy, and no need could be discerned for furthering what must have seemed impractical higher mathematics. Philosophy and science, in both monotheistic civilizations, were checked by theology. A great deal of cultural energy was drained by Muslim expansion and, in Europe itself, by the feudal struggle for sheer subsistence.

Despite the climate of darkness in Europe, St. Marks is founded in Venice in 828. In 846 the Arabs are at it again, overrunning Crete and the Greek islands, conquering Sicily, settling in southern Italy and even sacking Rome. Yiddish develops in Germany c.850, and an Arabian goatherd, Kaldi, discovers coffee. Vikings discover Iceland in 861 and found a colony there. The Cyrillic alphabet is invented, 863. In 873 the pope and the patriarch of Constantinople excommunicate each other – incidentally (and surprising to me), the earliest known Hebrew manuscript of the Old Testament dates from 895 A.D.

900: the 'Era of Pornocracy' in Rome: in 904 Marozia, Mistress of Pope Sergius III, gives birth to future Pope John XI (931-936); she is also the aunt of John XIII, (965-972); and grandmother of Benedict VI (973-974). Leif Erickson finds America about this time; BEOWULF is written; Guido d'Arrezzo modernizes (well—'improves') musical notation and teaches his system of solmization and, maybe, invents today's keyboard.

Stepping away from the West for a moment, two very intriguing books by anonymous Japanese women were written just before the millennium: *Diary of a May-Fly* and *The Pillow Book* (a woman's thoughts and experiences in the Imperial Court).

There are also historical mentions of several attempts to fly or float in air. Oliver of Malmesbury made an airplane in 1065, 'soared in it from a high place, and was killed' [Durant, AGE OF FAITH, ch.XXXVII, p.995]. And as one might expect, panic gripped the Christian world concerning the end of the world and expectations of the Final Judgment in 1000 A.D. (and, indeed, unbeknownst to the Old World, across the Atlantic, Mayan civilization did come to an end). The Battle of Hastings was fought in 1066 (Norman invasion of Britain by William the Conqueror, a date every British schoolboy knows—or used to know. Nowadays most youngsters in the UK probably know almost as little about our intellectual inheritance and the general history of Western culture as we Americans). This was also the year of the first recorded appearance of (the not yet called) Halley's comet. Pope Urban II preached the 1st Crusade in 1095, defeated the Turks and, in 1099, the crusaders succeeded in taking Jerusalem.

Gothic architecture makes its appearance in 1100, as does a new secular music, with the troubadours and trouvères appearing about 1025. The first university is founded in Bologna, 1119, and the University of Paris in 1150, heralding the development of scholastic philosophy. Here dawns a new age; a new particularly Western perspective; the infancy of what Oswald Spengler would come to call the 'faustian' culture heralded by its most emphatic symbol, the Gothic cathedral. Spengler speaks of four stages or

developments or perhaps merely styles of civilization. The **Egyptian** culture (1), whose architecture, he points out, was characterized by rows of columns forming avenues as if channeling life ultimately toward the eternal tomb (as if temporal life were merely an interlude in eternity and civilization a guide to successful passage back to the spiritual realm); the **Classical** (2), its Greco-Roman temples, with their close-spaced pillars practically denying an interior, emphasized the outside (the temporal world; the body); the **'Magian'** (3) or Arabic-Muslim culture, which raised, by use of Romanesque arches and vaults, huge and shining edifices in their major mosques, but with enclosed and seemingly inescapable interiors contained beneath the great domes, suggesting influence from the cosmos of nesting spheres—outside of which is nothingness and beneath which one is trapped, albeit in a vast and richly ornamented mystical space, as if one had entered the golden heart of Allah (The early basilica style most common in Eastern Christendom is similarly influenced). But then the **'Faustian'** culture (4) emerges, announced by the great Gothic cathedrals with their enormous windows of colored glass, their gravity-defying lightness belying the density of the stone, thus opening that formerly 'magian' interior vastness outward to infinity—a prelude to opening the Western soul to infinite possibility and inviting man's exploration of a heretofore unknown universe. Here was the undefined (as yet) attitude that was opening the mind to light. Sparked by the restless vitality and fearlessness of the wild North; ignited by the thought and focused by the rediscovery of the ancient wisdom of Hellas, a new spirit was kindled. By its intensity a mind-set was forged that would manage to stand erect under the full weight of ancient philosophy, so that men could accept the risk of insulting God by becoming fully human, and that they might, by using His gift of reason, prepare themselves for serious exploration of the suggestive cosmic ideas yet to be born of Copernicus, Kepler, and Galileo—not to neglect the radical political concepts of Machiavelli and Thomas Hobbes. And, now, looking outward and throwing back the gloomy cowl of Bernard of Clairvaux, Innocent IV sent Giovanni de Piano Carpini and a Franciscan companion to the Mongol court at Karakorum (1245). Then Louis IX sent Wilhelm van Ruysbroeck to the Great Khan (1253), leading to the most famous of all such exploratory trips, those of the Polos (c. 1260-1300), opening new routes of commerce, promoting intercontinental idea sharing, and encouraging geographic improvements that would help impel Columbus and suggest circumnavigation. All this was in motion surprisingly soon after emerging from prolonged darkness, and however unlikely it would have seemed while the Arabs ruled the Mediterranean, Western Europe was in count-down mode toward launching the age of global exploration.

So began the tenuous journey, despite resolute theological resistance, along the tortuous path from revelation to reason; from an old and comfortable but immobilizing faith to progress along an uncertain path: a new 'way' being opened by the embryonic notion of what was to develop into modern science. The Western soul had waited all too patiently for transport to the City of God and was growing tired of a harsh, meaningless, directionless life being lived-out as little but penance for the sins of Adam and Eve. It occurred to some of the medieval scholars that mankind was not made to dwell in libraries and monasteries, nor in dark forests of bygone days. The 'here and now' is where we live, and the time had come to lay out the foundations for a *new* city of man—the 'audacity of hope,' someone has recently said; a dream, at least, of something better.

By the 12th Century we can make out the faint glow before the dawn of modern thought. We will begin with an examination of a question obviously pressing on the minds of the educated, due to what had to be noticeable as a failure of Christianity to bring peace to the world, or even to its own realm. This was a much bigger problem than whether God was made up of three persons or one, or if Adam had a navel, or if the pope ought to be having bastard children, or if Christ was really God, or whether the Eucharist was really His body, etc., etc. We're talking, now, about whether God exists at all.

This is, of course, the danger associated with untrammelled reason and why it had been so foresightful and courageous of Augustine to try to bottle it up; to limit it by filtering it through revelation—through scripture; to try, by means of unquestionable faith, to overpower philosophy without stifling it. It worked for a remarkably long time, until, with the stability of renewed civilization, cynicism re-emerged to fuel scholasticism. After all, scholars could only argue about 'how many angels can dance on the end of a pin' for a finite period. Someone was bound to inquire, eventually, as to whether there were angels at all; and wasn't scripture metaphorical—requiring priests for its 'reasonable' interpretation? Arguments over that became seriously heated and (just as, shaking their heads, the early church fathers had warned Augustine) reason indeed engendered greater doubt, disintegrating rather than solidifying faith.

[Incidentally, Aquinas nowhere discusses angels dancing on pins. This is an old fabrication by some teacher to make a point. Immortality of such fables testifies only to their effectiveness in teaching. But Aquinas did give enormous space in his Summa Theologica to what now seem silly arguments and objections and diatribes concerning the attributes of angels: whether they have some sort of substance and occupy space, and whether or not two or more of them might occupy the same space at the same time.]

So, then, does God exist?

We will run quickly through the famous and still debated answer of Anselm:



St. Anselm [1033-1109] (*Archbishop of Canturbury*)

the 'ontological proof,' presented in 1109. Though the argument, in part, hangs on agreement over the definition of God, Anselm assumes there will be no dispute that God would not only be perfect in every way but that He is the very essence of all perfection and complete in every way, and that there can be nothing greater than God. Everybody knows that. He is the Ultimate. That is what we mean by the very name 'God.' With this much established, Anselm's argument proceeds up the ladder of perfection and greatness from inanimate things of daily life that we can perceive, to living things, and to ourselves—to the idea that we could be better, more perfect—and onward to the idea of a perfect universe. The most perfect 'thing' we can *perceive* is, in reality of course, imperfect. But in our thoughts, by our ideas, we can *conceive* perfect things—this has much residue of Plato's world of 'real' ideas. So Anselm says we can think of thoughts ever greater, until we reach a point at which we find 'that thought greater than which no thought can be thought,' and that would be God—well...but it's only the *thought* of God—the *concept* of an all-perfect, all-mighty, all-knowing Being. So we can

conceive of one more step: that such Being has existence. Existence is more perfect than non-existence (reality suddenly is better or of higher status than a dream?—now the *opposite* of Plato), and since God is the most high and absolutely perfect, existence must be among His attributes (if, indeed, we can assign Him attributes at all). To be all-perfect, all-knowing, and (especially) almighty in fact *requires* existence. Thus God *necessarily* exists Therefore only a fool would say ‘God does not exist.’

Find Anselm's argument—all of you know how to use the internet or the library or, if you have doubts, enlist the help of the librarian—or *pass out response to Anselm and his retort from Hyman & Walsh: PHILOSOPHY IN THE MIDDLE AGES*--and explain it back to me in a short paper, with your own observations in this regard included: a critique—to be handed in when we meet for the next session. How long? However much it takes to state your thoughts—a few paragraphs, depending on how deep you go. I shouldn't think more than a few pages. Consider this extra credit (a little or a lot, depending on your thoroughness—and how badly you need it), but there are no negatives here except for failing altogether to produce the assignment.

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 Review this and MORE on the existence of God – e.g., see Aquinas' discussion of proof -- in next session (Lecture XI).

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 (Cont. Lecture 10):

The Dangers of Philosophy:

To both Muslims and Jews, generally, Divine Law presupposed the unimportance or, worse, the *dangers* of philosophy. Their fears were realized in the West. Together with the new universities—especially at Paris, there arose what has been called the secular clergy, as opposed to the theological clergy. With all the stern-faced scholars pictured in their ecclesiastical attire, we have been given the impression this was a particularly puritanical age, one which held back progress toward the modern world. Actually, there were a number of pesky heresies, perhaps the most threatening was Catharism among the many that were a response to the very lustiness of the era. The Church's often brutal reaction to these threats to her sovereignty in the spiritual realm helped to set the stage for such as Hus and Wycliffe and Martin Luther and the Protestant Reformation. The corruption of the clergy was rampant in every way. The ostentatious wealth of the church, highlighted by the increase of mendicant orders such as the Franciscans and Dominicans, was the chief source of the heresies. Cathari, Waldenses, Bogomiles, Paterines, all condemned Christianity's hypocritical avarice. Arnold of Brescia expected all priests who died owning property would end up in hell.

Hand out Chapter xxviii "The Early Inquisition," *from* Durant: AGE OF FAITH, pp.769-784.
 [No paper or quiz is connected with this supplementary reading.]

All this was contemporary with scholasticism. One can see why most were very careful in their 'free thinking' not to think themselves onto the rack. But in truth, the acts of suppression (just as when Christians were persecuted by Romans) only served to support growing anti-orthodox views that the Church had fallen from grace. The overall failure of the Crusades was also problematic in keeping the faith. The idea that God had

abandoned this wayward church was widely discussed, especially in Italy and particularly in Rome itself, from which popes repeatedly had to flee to escape the laity.

But let Friar Roger Bacon describe what he saw himself:

More sins reign in these days than in any past age . . . the Holy See is torn by the deceit and fraud of unjust men. . . . Pride reigns, covetousness burns, envy gnaws upon all; the whole Curia is disgraced with lechery, and gluttony is lord of all. . . . If this be so in the Head, what then is done among the members? Let us see the prelates, how they run after money, neglect the care of souls, promote their nephews and other carnal friends, and crafty lawyers who ruin all by their counsel. . . . Let us consider the Religious Orders; I exclude none from what I say; see how far they are fallen, one and all, from their right state; and the new Orders [the friars] are already horribly decayed from their original dignity. The whole clergy is intent upon pride, lechery, and avarice; and wheresoever clerks [*students*] are gathered together. . . . they scandalize the laity with their wars and quarrels and other vices, Princes and barons and knights oppress one another, and trouble their subjects with infinite wars and exactions. . . . The people, harassed by their princes, hate them, and keep no fealty save under compulsion; corrupted by the evil example of their betters, they oppress and circumvent and defraud one another, as we see everywhere with our eyes; and they are utterly given over to lechery and gluttony, and are more debased than tongue can tell. Of merchants and craftsmen there is no question, since fraud and deceit and guile reign beyond all measure in their words and deeds. . . . The ancient philosophers, though without that quickening grace which makes men worthy of eternal life, lived beyond all comparison better than we, both in decency and in contempt of the world with all its delights and riches and honors, as all men may read in the works of Aristotle, Seneca, Tully, Avicenna, al-Farabi, Plato, Socrates, and others; and so it was that they attained to the secrets of wisdom and found out all knowledge. But we Christians have discovered nothing worthy of those philosophers, nor can we even understand their wisdom; which ignorance of ours springs from this cause, that our morals are worse than theirs. . . . There is no doubt whatever among wise men but that the Church must be purged.

[Quoted in Durant: AGE OF FAITH; ch.xxxvii, p.1013-14;
from Bacon's *Compendium philosophiae*,
as found in G.G. Coulton: LIFE IN THE MIDDLE AGES, vol.II, 55f; 1930 (4 vol.)]

The idea of history as movement, having direction and, thus, a glimmer of the concept of progress, even a sense of evolution was developing in this age. Earth was about to lose her central place in the overall scheme. With that would come doubts as to whether Man was God's primary focus. Where to turn for guidance when the helm was spinning apparently aimlessly and unattended in the pilothouse of civilization? The first reaction was to look back; to return to the safety of the harbor from which they had embarked so many centuries ago: to what had been successful—and there were those magnificent ruins lying about to prove it. While the view of a golden classical period was distorted by over-glorification, and as a true restoration of bygone ages is impossible in any case, the hope attached to the attempt to 'recreate' ancient Rome allowed at least a renaissance in spirit. But history, though we may see regression from time to time, does

not allow a true turning back, so the Renaissance would be, in that aspect, a failure—but what a marvelous delusion! Instead, of course, it provided a necessary modulation.

But we're not there quite yet.

In the Muslim world, as in that of Christians, the sacred Book had been challenged by the mind. But Islam had no central authority. In a later age of instant communication a leader might have been recognized, or some centralized council established to rule on the various ideas that were sprouting in the attempt to blend pagan philosophy with Divine Law. There cannot be culture without thought. Authority, however brutal it may act in attempting to crush reason, will always be questioned. Thought naturally generates further thought so that Islamic thinkers could not possibly have been of one mind. Without an arbitrator, their concepts of eternity; the creation; the soul; the meaning of the Koran; the essence of Allah; etc., were dispersed unevenly, and their conflicts were left unresolved and growing more intense. This tended to weaken the faith, not only by increasing sectarianism, but by encouraging agnosticism; even atheism.

Various imams and the several territories each had their favorite 'philosophers' to help in properly adjusting their views of scripture. The discovery of Plato and Aristotle was not turning out to be beneficial. With rapid expansion came increasing turmoil. Islam was losing its once solid-seeming façade. The Islamic reformation, then, was a retraction from reason into sheer faith. Even so, Muslims are still at war with one another, a conflict exacerbated by the political element of their religion preventing separation from the state. Since they believe the entire world must eventually submit to Allah and state and the religion are to be one power, their only hope of success is to create a single world state, whereby they could at last (theoretically, but probably never actually) have a centralized religious authority to resolve all pending conflicts, including the problem of the infidel.

In Western Europe, although the universal 'City of God' was the expectation for some (perhaps the hope of most), the situation was different. The surge of reason certainly became a problem here, too, but it was tentatively confined by an orthodoxy of scriptural opinion generally reviewed, adjusted, and approved at Rome—albeit imperfectly. As power was split between Church and state, however, the pope could not act the complete tyrant and Catholicism thus fell short of totalitarianism. It was weaker than is generally portrayed by our natural tendency to highlight the stories of torture and burning of dissidents. It could neither subdue the scholastics nor curb heresy. The pope was hesitant to condemn leading Catholic professors, despite the rumblings of the Inquisition, and in some cases the Church was seen to be actually promoting science. Many of her bishops were in fact quasi-scientists and mathematicians, such as **William of Auvergne** (Bishop of Paris) and **Bishop Grosseteste** in England. Two of the most modern-leaning thinkers of the Age, **Albertus Magnus** (Dominican) and **Roger Bacon** (Franciscan) were friars. The ascetic **St. Bernard** and probably **St. Bonaventura** discouraged science, and **John Duns Scotus** abandoned the attempt to prove basic Christian dogma by sheer reason, retreating to complete faith in Scripture. Views of such men were never official doctrine, but Duns Scotus thought faith ought to have nothing to do with philosophy; that it was enough to defend religion according to sheer socio-moral practicality. I.e., blind faith would be best for social stability: the darker, the better.

In actuality the Church seemed not to seek out perpetrators of questionable heresy in the various schools and monasteries. Most suspects (as with Abélard) were 'ratted out' by envious competitors for students and for fame—or simply due to personality

conflicts—and the Bishops and/or councils called to judge their thought did not automatically consider torture and purification by fire, but were generally lenient with those convicted, making them swear to renounce their ‘mistakes,’ often requiring them only to burn the offending book as they confessed their tryst with the Devil. In fact, perhaps partly as a result of the respect shown by some of the most famous ecclesiastics for pagan philosophy, there was a surge of occultism, especially regarding astrology.

A major difference in Europe, however, had to do with the fact that the Church had to deal with non-ecclesiastic rulers, many of whom were adamant about protecting their own wayward scholars, especially one whose fame may have redounded to glorify the monarch who sponsored him—or, in other cases, a prince simply understood that his state (and his purse) stood to benefit from a weakened faith. Thus, due in great part to the idea of a separation between church and state, as ascribed to Christ Himself, the Church was unable either to incarcerate or incinerate science and philosophy.

A goodly portion of the blame (or, from modern perspective, the credit) for this failure rests with the ancient and sainted Doctor of the Church, Augustine, who had not simply left the door open, but had actually invited reason, as developed by pagan philosophy, to help in understanding revelation more perfectly and to join with Christians in the investigation of God’s creation, thus to know the Creator more thoroughly. The medieval Church could not overcome his overpowering influence in this regard, while Judaism resisted philosophy, and Islam (downplaying some seemingly contradictory urgings of the Koran itself to seek knowledge of the world) accomplished the repression of reason, retarding its momentum and ending their fascinating flirtation with science.

Wrestling with Aristotle, plus the introduction of Avicenna and Averroës, proved to be the undoing of the Age of Faith, says Durant: ‘the [unwitting] revenge of paganism [and Islam, too] over Christianity.’ Reason and faith had rejected each other in Europe, but both survived—the organized faithful would generally continue, unsuccessfully, to oppose science as a form of heresy; the organizers of reason, undaunted, were anxious to forge ahead with it; most by adjusting but not abandoning their faith in God.

As philosophers pushed the envelope (as rebels will—even those claiming not to be in rebellion), the Church grew less tolerant, even condemning (in 1277) various positions proposed by **Thomas Aquinas** [1229-1274] who, in his *Summa Theologia*, was thought by the anti-rationalists to have preferred Aristotle over St. Augustine. Just as Islam had denounced and condemned their wayward Aristotelians, particularly banning Averroës, and Jews had burned the books of the Aristotelian Maimonides (both of the aforementioned non-Christians to whom St. Thomas was heavily indebted intellectually), so Catholicism tried to purge itself of Aristotelian Thomism. The philosopher/theologian, for nearly 50 years after his death, was still on the fence, wavering between villain and hero of Catholics when **Dante** used Thomism as a framework for his *Divine Comedy*—wherein the poet was led up the stairway to heaven by Thomas himself (not yet a saint).

Aquinas taught twice at Paris, for several years each time, and found many of the teachers there leaning more toward Aristotle than did he. His duty, having been dispatched by the pope, was to wrench them back to orthodoxy. The most prominent, **Siger of Brabant** [c.1240-c.1280], was well versed in Aristotle as well as the known Islamic philosophers. He claimed that Thomas and Albertus Magnus and others like them, had twisted the Philosopher’s meaning, and that Averroës had been much closer to the original understanding of Aristotle. Siger, a sort of secularist priest, managed to evade

the stake even while teaching the Universe as eternal; natural law invariance; there shall be no bodily resurrection; even suggesting eternal recurrence (arguing somewhat astrologically that there are a finite number of stellar combinations which, over infinite time, must repeat themselves over and over, forever). He apparently saved himself by appending to his un-Catholic suggestions such as “We say this according to the opinion of the Philosopher, but without affirming that it is true.”

[Quoted in Durant, AGE OF FAITH, ch.xxxvi, p.957;
from E.Renan, AVERROES et l' AVERROÏSME, Paris, (HARVARD CLASSICS, vol.38; N.Y., 1938)]

The Bishop of Paris repeatedly condemned these ideas (and many more), yet we find Siger as a candidate (though he failed) for rector of the University. Eventually the Inquisition caught up with him, but he was not tortured and burned. He was eventually imprisoned, however, at Orvieto was murdered there by a madman (1282).

St.Thomas Aquinas (canonized 1323)

Thomism (admittedly imperfect) became the official philosophy of the Catholic Church in 1921 per Benedict XV. This was, in great part, a result of external pressure by an increasingly sciencistic world. Conservatism in the Church had to be ‘adjusted’ (particularly after the shocking loss of revenue caused by the Protestant Reformation). But we must also consider that liberal *metagenetic* material (if seemingly recessive) had been inherited from The Master, Jesus Himself, and is still found in the deepest roots of Christianity. It has been one of the most important factors in the development of Western morality. Even modern ‘philosophers’ who proclaim agnosticism or atheism are generally engaged not in discovering a new, logic-saturated, somehow objective ethics but are instead seeking rational grounds for existing moral assumptions: morals rooted in Judeo-Christian revelation and found in the message of Christ; a morality with a distinct liberal core that, while admittedly malleable by wide-ranging reinterpretation, misunderstanding, and socio-political pressures, is always capable of regeneration and, it seems, cannot be expunged—at least as long as there are Christians and the Gospel. Thus, while science claims amorality and strict objectivity, scientists still take ethical direction from a god their profession exhorts them to deny. It shouldn’t be surprising, since, as we see, ‘modern’ science was born of Christianity wedded to philosophy, and gained its cold, emotionless detachment by their irreconcilability, disgraceful public arguments, and ultimate divorce.

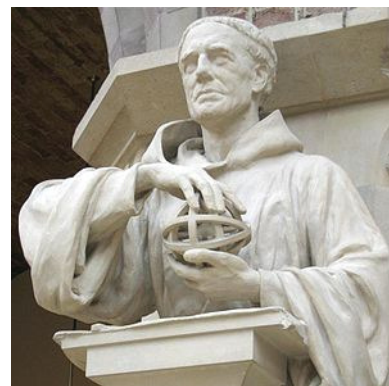
Instrumental in that divorce, and promoting mathematics as the key to deciphering the secrets of nature was Friar Bacon,

Roger Bacon, ‘Doctor Mirabilis’ [1220-1292]

an instigator and prophet of modern science. Transgressing against both sides of the scholastic argument, he rejected Aristotelian logic while criticizing his peers for mis-translating and misappropriating the Philosopher’s ideas as well as the Bible, and he slammed the scholastic method for submitting to faith,



St.Thomas by Fra Angelico



authority, and tradition. While not yet a ‘modern’ thinker, he encouraged experimental science with his notion that knowledge can best be had through experience and be expressed and understood via mathematics. This was the wedge that would separate science not only from faith but even from classical philosophy. Science would formulate its own philosophy. Mathematically, the world can be studied separately, practically, aside from heaven and without contradicting God and Scripture. Knowledge uncovered in this pursuit will be progressive. Bacon predicted that it would lead to automobiles and airplanes and lighted streets. He also suggested that “the sea between the end of Spain on the west and the beginning of India on the east is navigable in a very few days if the wind is favorable” (cited by Columbus in a letter to Ferdinand and Isabella, 1498, as having helped inspire his voyage of 1492). “[P]art of experimental science,” says Bacon making his quantum jump to the 20th century as an early philosopher of science:

...concerns the fabrication of instruments of wonderfully excellent usefulness, such as machines for flying, or for moving in vehicles without animals and yet with incomparable speed, or of navigating without oarsmen more swiftly than would be thought possible through the hands of men. ... And...instruments by which incredible weights can be raised or lowered without difficulty or labor. ... Flying machines can be made, and a man sitting in the middle of the machine may revolve some ingenious device by which artificial wings may beat the air in the manner of a flying bird. ... Also machines can be made for walking in the sea and the rivers, even to the bottom, without danger.

[*De secretis operibus artis et naturae*, ch.IV;
found in ROGER BACON ESSAYS; A.G. Little, ed.; Oxford, 1914; p.178]

Also,

Important arts have been discovered against the foes of the state, so that without a sword or any weapon requiring physical contact they could destroy all who offer resistance.

[*Opus maius*, ch.vi, p.12]

He notes that certain toys called ‘crackers’ (containing saltpeter [41.2%], charcoal [29.4%], and sulphur [29.4%]) are already in use, and predicts their explosive power will be much increased by enclosing this mixture in a hardened case (recipe for a Bacon-bomb?).

While he was not much of an experimenter himself, his greatest scientific contributions being recommending a method and the concentrated use of mathematics, he did do some remarkable work in optics, attempting to formulate the laws of refraction. “We can so shape transparent bodies” [lenses], he said:

[A]nd arrange them in such a way with respect to our sight and the objects of vision, that the rays will be refracted and bent in any direction we desire; and under any angle we wish we shall see the object near or at a distance. Thus from an incredible distance we might read the smallest letters, and number grains of dust or sand. ... Thus a small army might appear very large and...close at hand. ... So also we might cause the sun, moon, and stars in appearance to descend here below,...and many similar phenomena, so that the mind of a man ignorant of the truth could not endure them. ... The heavens might be portrayed in all their length and breadth on a corporeal figure moving with their diurnal motion; and

this would be worth a whole kingdom to a wise man. ... An infinite number of other marvels could be set forth.

[from Durant, AGE OF FAITH, ch.xxxvii, pp.1011-12]

Here is the essence of Bacon's contribution to modernity:

"Argument is conclusive... but... it does not remove doubt, so that the mind may rest in the sure knowledge of the truth, unless it finds it by the method of experiment. For if any man who never saw fire proved by satisfactory arguments that fire burn, his hearer's mind would never be satisfied, nor would he avoid the fire until he put his hand in it that he might learn by experiment what argument taught."

"All science requires mathematics. The knowledge of mathematical things is almost innate in us. This is the easiest of sciences, a fact which is obvious in that no one's brain rejects it; for laymen and people who are utterly illiterate know how to count and reckon."

"Reasoning draws a conclusion, but does not make the conclusion certain, unless the mind discovers it by the path of experience."

For all his ranting against her, Bacon considered the Catholic Church led by the pope as the best hope of European civilization; that, however faltering, society would be impossible without this attempt at a universal morality, and the world would descend into chaos. So he prayed that the clergy would reform and become worthy of the sacred duty with which God had burdened them: to raise men's sights to the highest ideal.

Instead, by its condemnations and book burning, the Church increasingly pushed the free thinkers toward abandoning the faith, which the clergy themselves had helped weaken. The Church had to adjust its position. The introduction of reason, ostensibly to support faith (per St Augustine), and then its failure to fulfill that expectation, tended to damage faith more than to discredit reason. In fact, it ended in the rejection of faith by reason, which brought the Age of Faith to a close. A reactionary Church, of course, refused to recognize that event, becoming instead even more the enemy of the future in trying to waylay modernism.



A bishop blesses victims of the Black Death

Assign supplemental reading: (Handout)

Durant's discussion of Dante's *Divine Comedy*; AGE OF FAITH; p.1066-1081

(Plus show an illustration of Dante's cosmos—see internet)