Church Discipline of Natural Philosophers in the Middle Ages: the Case of Cecco D'Ascoli

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1) Introduction and Methodology

Probably the only natural philosopher of the Middle Ages to be burnt at the stake at the behest of the Church was one Francisco degli Stabili (c. 1269 – 1327) in Florence in late 1327. Francisco, who usually went by the diminutive of Cecco, was the son of one Simon, a man from the central Italian province of Ascoli, where it is likely that Francisco was also brought up as he was most commonly known as Cecco D'Ascoli. He was a Master of the Arts at the University of Bologna, a career that his father too probably followed as both are called 'Magister', and where he lectured on astronomy.

Cecco's fate once made him a much better known figure than he is today. The Middle Ages have had a bad press and no more so than in the treatment of the period's intellectual achievements. In the nineteenth century, the myth took shape that medieval people had no conception of science and essentially lay crushed under the thumb of a church that insisted the Earth was flat. The story of how religion held back the advance of science was given credibility by the work of Andrew Dickson White whose two volume *History of the Warfare of Science with Theology in Christendom* (1896) remains probably the most influential book ever written on the history of science. Its central thesis of a fundamental fissure between scientific and religious thought, that saw the later dominate prior to the Renaissance when reason finally asserted itself, remains the popular view to this day. Cecco makes a cameo appearance in chapter two of this work wherein White attempts to document the efforts of the Church to enforce a view of a flat earth and that the antipodes are consequently a nonsensical idea.[1] Reading carefully, it is by no means clear exactly what the situation was, as White struggles with the near complete lack of evidence for his thesis, but he does seem to imply that Cecco was executed for, among other things, claiming the antipodes existed. In the academy, however, this conflict hypothesis did not long survive Lynn Thorndike's massive *History of Magic and Experimental Science* (1934 – 58) which effectively debunked most of White's specific examples. Thorndike also successfully attacked Cecco's reputation and after an examination of his life, death and work reported that his name was "better known than the writings and actual achievements of its owner deserve".[2] We have heard little more about him in the last fifty years. It is not the intention of this dissertation to rehabilitate a particularly unfortunate medieval natural philosopher, nor will it attempt to second-guess Thorndike's admirable scholarship with regard to his writings. Instead, the unusually full documentation available regarding his case will be used as a framework within which the many aspects of the relationship between the Church, natural philosophy and the universities can be examined.

As Thorndike noted, we possess both the condemnation from the inquisition (transcribed by G Boffito and translated, apparently for the first time, in the appendix to this dissertation),[3] a chapter from the contemporary chronicle of Florence by

[1] Andrew Dickson White *The Warfare of Science with Theology in Christendom* (New York, Dover Publications, 1960) volume I, page 35
[2] Lynn Thorndike *History of Magic and Experimental Science* (New York, Columbia University Press, 1934 – 58) volume II, page 948
[3] Reproduced in G Boffio 'Perchè fu condannato al fuoco l'astrologo Cecco d'Ascoli?' *Studi e Documenti di Storia e Diritto* 20 (1899) page 14, note 3 and the Appendix

Giovanni Villani (c. 1276 – 1348),[4] and some later but apparently well informed commentary by the fifteenth century inquisitor Franciscus Florentinius.[5] The appendix of this dissertation also presents a translation of extracts from financial accounts of the inquisitor who supervised Cecco's second trial in Florence. These were transcribed by G Biscaro[6] and do not feature in any of the other secondary works examined. Three works by Cecco himself are extant, including the two which were condemned at the same time as he was, an Italian poem called L'Acerba and a commentary on the *De sphera* of John Sacrobosco (c. 1195 – 1256).[7]

The question that this dissertation wishes to ask is to what extent the Church circumscribed the activities of natural philosophers in the Middle Ages. This is not to suggest that there was any kind of dichotomy between revelation and reason. Both were respected as tools, which could be used to preserve and advance knowledge and the faith even if reason was only a "handmaiden" to religion.[8] As Edward Grant has shown, reason was just as much a facet of medieval scholarship as was revelation although there was potential for disagreement about the way in which these tools were best utilised.[9] The place of authority, reason and revelation in the hierarchy of knowledge and the extent to which other disciplines, such as astrology and natural magic, were helpful or even permissible was widely discussed. Peter Abelard's (1079 – 1142) use of logic in theology caused concern to St Bernard of Clairvaux (1090 – 1153)[10] but during the next century the work of Abelard and St Anselm of Canterbury (1033 – 1109) led to logic being seen as a vital tool for the theologian and natural philosopher.[11]

The detailed documents pertaining to Cecco mean we are engaged here in what is often called micro-history. A single event is to be studied within its context in order to illuminate a wider area of interest. But it is hoped that the common pitfalls of such an enterprise can be avoided by realising that Cecco's was not a representative case and his terrible end cannot be used, as the old conflict hypothesis tried to do, as an illustration of the Church's attitude toward natural philosophers. Instead, it is the context, presented within the framework of Cecco's interests and trial that will enable us to more accurately answer our question. Cecco's fate was exceptional but the process by which he was condemned to it was not.

In order to understand what is going on, it is necessary to establish a good deal of background material related to who Cecco was, what he was doing and the procedures to which he was subject. To do this, current scholarship has been combined with examples from a wide variety of published medieval sources that provide other

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[4] Giovanni Villani *Nuovo Cronica* XI, 41, in *Rerum Italiarum Scriptores* ed. LA Muratori (Societatis Palatinae, 1723 – 51)
[5] Quoted in Lynn Thorndike *History* volume IV, page 690
[6] Gerolamo Biscaro 'Inquisitori ed Eretici a Firenze, 1319 – 1327' *Studi Medievali*, New Series 3:2 (1930) pages 269 - 271
[7] Reproduced in Lynn Thorndike *The Sphere of Sacrobosco and its Commentators* (Chicago, University of Chicago Press, 1949) page 344ff
[8] David Lindberg 'Medieval Science and its Religious Context' *Osiris* Second Series 10 (1995) page 72
[9] Edward Grant *God and Nature in the Middle Ages* (Cambridge, Cambridge University Press, 2001) page 29
[10] H Fichtenau *Heretics and Scholars in the High Middle Ages* trans. DA Kaiser (Philadelphia, University of Pennsylvania Press, 1998) page 221
[11] Fichtenau *Heretics and Scholars* page 246

examples of cases of academic discipline and the status of the various activities that Cecco may have been engaged in. Both sides of the equation will be examined – the profession of natural philosopher in a university and the judicial machinery that could be applied to such individuals.

The foundation of the universities and the place of natural philosophy are considered as well as the disciplinary structure of these institutions, largely by reference to the original statutes and other sources on student life. While the hypothesis that the Church was an impediment to scientific development has largely been discarded, there were elements that treated the new learning with suspicion. The dialogue by which these concerns were overcome is outlined and the state of science at the time examined. However, there remained limits beyond which one could not step without certain precautions. These limits and the ways that thinkers dealt with them are shown with particular reference to the condemnations of 1277, which defined many of the boundaries in later years. As a result of these negotiations, natural science was able to establish a secure place to practice and gain the same degree of protection from outside interference as other academic disciplines.

Like many of his contemporaries, Cecco was involved in astrology and this appears to have been much of the reason for his downfall. Together with alchemy and natural magic, astrology occupied a grey area where it was all too easy to cross the boundaries into heresy or superstition. The mechanisms that developed over the Middle Ages to combat heretics are considered together with how these commonly applied in the case of academics. This provides the necessary context for the case of Cecco and it becomes possible to get a good idea as to what he did, why the inquisitor treated the matter as so serious and how it related to other controversial issues at the time. This should lead to a better understanding of the overall relationship between the Church and natural philosophy in the Middle Ages as well as the extent to which the activities of academics were circumscribed and controlled.

Unsurprisingly, most of the material that relates to the interface between academics and the Church relates to theology rather than natural science. These were recognised as two separate subjects that shared a certain amount of common ground but were subject to similar disciplinary pressures. Consequently, many of the examples used involve theologians rather than natural philosophers. The faculties of medicine and law do not feature particularly although there were issues between the Church and physicians that needed negotiation. Human dissection may have been one of these areas although there is very little sign that canon law had much impact on how these took place or their practice.[12] Stories about Andreas Vesalius (1514 – 1564) falling foul of the Spanish Inquisition have no evidentiary support.[13]

2) The Foundations and Syllabus of the Universities

Cecco D'Ascoli had earned his title of *magister* or master by incepting into the Arts Faculty of a university. While it is not certain he had studied at Bologna where he lectured, we do know that, as part of inception, the new Master of the Arts would have

[12] Katherine Park 'The Criminal and Saintly Body - Autopsy and Dissection in Renaissance Italy' *Renaissance Quarterly* 47:1 (1994) page 11
[13] C Donald O'Malley 'Andreas Vesalius' Pilgrimage' *Isis* 45:2 (1954) page 138

to swear to teach for a certain period of time.[14] But inception also granted a licence to teach at any other university called the *ius ubique docendi*[15] and scholars did move around in search of students and a steady income. During the later Middle Ages, the intellectual centres of Europe were not princely courts or monasteries, but the universities that had started to appear in the twelfth century after new developments in civil and canon law allowed a group of scholars to form a *universitas* or corporation (the actual term for an academic university was *studium generale*) in a similar manner to the craft guilds also appearing at this time.[16] The vital concept was that a corporation had a distinct legal personality separate from its members that allowed them to show a single face to the outside world while independently being able to govern the workings of the corporation from within.[17]

The first universities of Bologna, Paris and Oxford grew up in a haphazard fashion out of existing schools where a few teachers had gathered together for protection. Later, because an ancient pedigree leant further authority over the newer institutions that had begun to appear, the earliest universities began to claim mythical benefactors. Alfred the Great (849 – 899) was said to have endowed Oxford,[18] Charlemagne (742 – 814) to have founded Paris[19] and, most ancient of all, the Roman Emperor Theodosius II (401 – 450) to have given a charter to Bologna.[20] Universities founded later needed to earn their position by the quality of their scholars and recognition by a pope or emperor. They would also base their organisation on older establishments such as Heidelburg, arranged on Parisian lines in 1386 in order to gain papal approval.[21] Some of them, such as the short lived Piacenza, did not manage to survive.[22]

Students were travelling far and wide to these centres to study under the most famous masters like Anselm of Laon (d. 1117)[23] and Peter Abelard[24] but they found themselves particularly vulnerable in the strange cities that they had to stay in. Frederick II Barbarossa (1125 – 1190), the Holy Roman Emperor, perhaps thinking that the canonists and lawyers would be useful allies in his struggles with the papacy, decided to safeguard Bologna's law schools[25] and promulgated a decree in 1158

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[14] Jacques Verger 'Teachers' in *A History of the University in Europe* ed. Hilde de Ridder-Symoens (Cambridge, Cambridge University Press, 1992) page 147; *Monumentia Academia* ed. Henry Anstey (London, Longmans Green Reader and Dyer, 1868) *Rerum Britannicam Medii Aevi Scroptores (Rolls Series)* 50, page 419

[15] David Lindberg *The Beginnings of Western Science* (Chicago, Chicago University Press, 1992) page 212

[16] Toby Huff *The Rise of Early Modern Science* (Cambridge, Cambridge University Press, 1995) page 134

[17] Pearl Kibre and Nancy Siraisi 'The Institutional Setting: The Universities' in *Science in the Middle Ages* ed. David Lindberg (Chicago, University of Chicago Press, 1978)

[18] *Monumentia Academia* page xxx

[19] Hastings Rashdall *The Universities of Europe in the Middle Ages* New Edition, eds. Powicke FM and Emden AB (Oxford, Oxford University Press, 1936) volume 2, page 271

[20] Rashdall *The Universities* volume 1, page 142

[21] *Historical Documents of the Middle Ages* ed. Ernest Henderson (London, George Bell and Sons, 1896) page 262

[22] Rashdall *The Universities* volume II, page 38

[23] Fichtenau *Heretics and Scholars* page 273

[24] MT Clauchy *Abelard – A Medieval Life* (Oxford, Blackwell, 1997) page 73

[25] James Brundage *Medieval Canon Law* (London, Longman, 1995) page 46

extending his royal protection to transient scholars away from home.[26] Additionally, in the same decree, he declared:

> if anyone should presume to litigate against [students] on account of some business, this choice is given to the scholars, that they may convene the case before their lord or master or the bishop of that city, to whom we gave the jurisdiction.[27]

This was an important innovation. Although it is generally assumed that all students were clerics of some description, and were commonly called clerks as a result, this is not something that the earliest university charters actually state. Instead, to be recognised by the university it was only necessary to be accepted by a master who would include ones name in his roll of students.[28] The fact that students were able to choose to be subject to canon rather than civil law was a specific privilege that secular authorities had to grant (the Church never showed much reluctance to accept wider jurisdiction). Thus, the famous charter of privileges given to the University of Paris by Phillip Augustus (1165 – 1223) in 1200, forbids the local secular authorities to so much as lay a hand on the scholars except in cases of serious wrong doing and even then the magistrate must "return him to ecclesiastical justice".[29] This dual recognition by the Church and the state was an unusual occurrence which led Oxford to declare itself as having gained its privileges "from the royal and ecclesiastical power".[30] These precedents meant that should a city want a university for reasons of municipal pride, it needed to offer the same privileges if it expected any scholars to turn up. They were quick to close up shop and move if they felt they were not being given the respect they deserved by the local authorities. Alternatively, scholars could be enticed by other rulers, such as when Henry III (1207 – 1272) of England wrote to the schools of Paris "We humbly sympathise with your sufferings under the iniquitous laws of Paris and we… write to you to invite you to come over to our realm" before offering them use of any town or city they should choose.[31] In 1222, disaffected scholars from Bologna moved to and settled at Padua[32] while Cambridge received an influx of Oxford exiles in 1209.[33]

Natural philosophy, or natural science as it was sometimes called, was studied in the Arts Faculty and taught by the Regent Masters, like Cecco D'Ascoli, who had been granted a licence to teach there. New students joined the Arts Faculty where they began to work towards a Bachelor of the Arts degree (BA) for which they were traditionally taught the *trivium* of grammar, rhetoric and dialectic for four years.[34] Then they could begin studying for the Master of the Arts degree (MA) which required

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[26] *Constitutiones et acta publica imperatorum et regum* ed. Ludwig Weiland (Hanover, Hahn, 1893) *Monumenta Germanicae Historica, Leges 4,* volume 1, page 249

[27] *ibid.* "*Si eis litem super aliquo negotio quispiem movere presumpserit, huius rei optione scolaribus data, eos coram domino aut magistro suo vel ipsius civitatis episcopo, quibus hanc iurisdicionem dedimus, conveniant.*"

[28] MB Hackett *The Original Statutes of Cambridge University* (Cambridge, Cambridge University Press, 1970) page 210; *Statvta Antiqva Vniversitatis Oxoniensis* ed. Strickland Gibson (Oxford, Clarendon Press, 1931) page 82

[29] *Chartularium universitatis parisiensis* eds. Denifle H and Chatelain E (Paris, 1891 – 1899) volume 1 s1 page 60 "*reddet eum justicie ecclesiastice*".

[30] William Pantin *Oxford Life in Oxford Archives* (Oxford, Clarendon Press, 1972) page 55

[31] Richard Southern *Church and Society in the Middle Ages* (London, Penguin, 1990) page 277

[32] Rashdall *The Universities* volume 2, page 10

[33] Rashdall *The Universities* volume 3, page 276

[34] Gordon Leff 'The Trivium and the Three Philosophies' in *A History of the University* page 325

that they be taught the *quadrivium* of arithmetic, music, astronomy and geometry, collectively called the middle sciences.[35] Some knowledge was also required of the three philosophies – natural philosophy, ethics and metaphysics – in order to graduate or incept as a master.[36] At this stage, the student could remain in the Arts Faculty as a Regent Master or enter one of the higher faculties such as law, medicine or theology although theologians, at least, were also engaged in natural science as it suited them.[37] This propensity was by no means universally popular and after laying down the Chancellorship of the University of Paris in disgust in 1411, John Gerson wrote castigating theologians for messing around with "fruitless and superficial" subjects when they should be concentrating on divinity.[38]

The content of the *quadrivium* subjects changed relatively little from the late thirteen century until the sixteenth. One of the earliest syllabuses from Paris, a proclamation made by the Arts Faculty in 1255, calls for the study of much of the Aristotelian corpus and very little else.[39] The scientific elements of the 1431 syllabus at Oxford read:

> Astromony for two terms of the year, namely *Theory of the Planets* or Ptolemy in the *Almagest*; natural philosophy for three terms, namely the books of *Physics*, or of *Heaven* and of *the Universe*, or *On the Properties of the Elements* or of the *Methods*, or on one hand, *On Vegetables and Plants*, or on the other hand *On the Soul* or *On the Animals* or some of the *Little Natural Books* and this from the text of Aristotle.[40]

While natural philosophy largely remained the study of Aristotle (c. 384BC – 322BC), or at least books attributed to him, throughout the Middle Ages, the rest of the *quadrivium* was covered in a very basic fashion from the works of Boethius (c. AD480 – c. AD525)[41] except for astronomy where there was quite extensive coverage. That said, it was hard for students to get to grips with Ptolemy's (c. AD85 – c. AD165) *Almagest* and simpler text books such as John of Sacrobosco's *On the Sphere* and the anonymous *Theory of the Planets* were extremely popular and are quite informative in a qualitative fashion.[42] Cecco himself, who was lecturing astronomy to MA students, wrote a *Commentary on the Sphere* in which he was able to bring out his own ideas on matters that he wanted to emphasise in his teaching.

3) University Discipline

To be entitled to their legal privileges, students actually had to be members of the university. As well as being on the roll of their master, they also had to turn up for classes. Thus, the first Cambridge statue states that "only those scholars who attend the schools of their master at least three days a week and hear not less that three lectures

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[35] John North 'The Quadrivium' in *A History of the University* page 337
[36] Edward Grant *Foundations of Modern Science in the Middle Ages* (Cambridge, Cambridge University Press, 1996) page 47
[37] Grant *God and Nature* page 186
[38] John Gerson *Early Works* trans. BP McGuire (New York, Paulist Press, 1997) page 172
[39] *Chartularium universitatis parisiensis* volume 1, s246 page 278
[40] *Statvta Antiqva Vniversitatis Oxoniensis* page 234: "*Astronomiam per duos terminos anni, videlicet Theoricam planetarum, vel Tholomeum in Almagesti; Philosophicam Naturalem per tres terminos, videlicet libros Phisicorum, vel Celi et Mundi, vel de Proprietatibus Elementorum aut Metheorum, seu de Vegetabilibus et Plantis sive de Anima, vel de Animalibus, aut aliquem de minutis libris, et hoc de textu Aristotelis.*"
[41] John North 'The Quadrivium' in *A History of the University* pages 343 - 344
[42] Olaf Pedersen 'Astronomy' in *Science in the Middle Ages* page 316

enjoy immunity"[43] and likewise the Pope himself reminded the students of Paris that it was necessary for them to be working on their studies to enjoy the protection of the Church.[44] The Chancellor of Oxford went as far as to threaten excommunication for students who did not turn up to lectures.[45] Minor infringements were dealt with by the student's own master with university authorities taking on more serious cases.[46] The kind of offences the statutes concern themselves with are if a student "goes through the streets or districts with weapons or without weapons after a fight"[47] or more seriously if they are "burglars, footpads, assailants of women and those carrying weapons"[48] all of which could get one sent down. Things could sometimes get seriously out of hand and in 1269 we hear of a

> frequent and continual complaint… that by day and night [students] atrociously wound or kill many persons, rape women, oppress virgins, break into inns, also repeatedly committing robberies and other enormities hateful to God.[49]

We can see that the universities' disciplinary procedures were usually invoked to deal with sex, violence and absenteeism. The long list of cases brought before the Chancellor of Oxford almost all follow from misdemeanours of this kind. It is here we see the day-to-day cases resulting from fraudulent tradesmen, violence, prostitution, slander and late rent.[50] The university allowed appeals to higher courts, either to the King for secular crimes, or eventually to the Pope for ecclesiastical matters.[51] This right of appeal existed right across the legal system and was one of the central ways in which the pope and kings were able to exert their power.

The university authorities had a wide variety of penalties at their disposal including fines, imprisonment and excommunication.[52] For most minor offences, fines were found to be by far the most effective deterrent[53] but in the most extreme cases the malefactor could be handed over to the secular arm for punishment.[54] This would usually only occur in the case of serious crimes or repeated offences and probably resulted in execution in the way appropriate to the crime in question. At Paris, the papal legate was sometimes called in to knock heads together when the different nationalities of students were quarrelling[55] as well as deal with heresy cases like that of John of Brescia.[56]

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[43] Hackett *Original Statutes* page 210
[44] *Chartularium universitatis parisiensis* volume 1, s79 page 138
[45] *Monumentia Academia* page 426
[46] Hackett *Original Statutes* page 202
[47] *Statvta Antiqva Vniversitatis Oxoniensis* page 108 "*vel alius per vicos vel plateas eat cum armis vel sine armis post pulsacionem [ignitegii vel vagetur]*"
[48] Hackett *Original Statutes* page 210
[49] Lynn Thorndike *University Records and Life in the Middle Ages* (New York, Columbia University Press, 1971) page 78; *Chartularium universitatis parisiensis* volume 1, s426, page 481
[50] *Monumentia Academia* pages cxxviii - cxxxv
[51] *Statvta Antiqva Vniversitatis Oxoniensis* page 278
[52] *Statvta Antiqva Vniversitatis Oxoniensis* page lxxix
[53] *Statvta Antiqva Vniversitatis Oxoniensis* page lxxix
[54] *Monumentia Academia* page 225
[55] *Chartularium universitatis parisiensis* volume 1 ss406 and 460, pages 446 and 521
[56] MM McLaughlin *Intellectual Freedom and its Limitations at the University of Paris* (New York, Arno Press, 1977) page 58; *Chartularium universitatis parisiensis* volume 1, s176, page 206

The intellectual life of the students was handled through the syllabuses and examinations where comments that might have got a qualified master into trouble could simply be marked as wrong. However, for a student to achieve a degree, his master had to make a statement about his morals as well as whether he had reached the necessary academic standards.[57] The disciplining of masters is not something the statutes devote much attention to but presumably they would have been subject to the Chancellor as well as their holy order if they were also members of one. A constant concern for students was where they were going to find the money to pay the fees the masters charged. As a certain David of London, a student stuck in Italy, complained "I am unable to leave Bologna because of a mountain of debt… this is always the way things happen."[58]

Apart from family wealth, there were a number of options for getting hold of the requisite funds, including gaining a benefice which had a salary attached (a curate could be hired for a small amount to actually minister to their parish) or joining one of the mendicant orders.[59] Both the Franciscans and Dominicans needed trained theologians to carry out their preaching work and would sponsor their members through college. Their desire for theologians led to altercations with the universities that insisted that everyone read for an MA before moving on to a higher faculty. Eventually, the friars were allowed to send their students straight into the Theology Faculty but they had to study there even longer than those who had come up from the MA.[60]

Glimpses of life at the universities, or at least how it was popularly conceived, can be found in Geoffrey Chaucer's (c. 1343 – 1400) *Canterbury Tales*. One of the pilgrims, the Clerk, is a dedicated student from Oxford who kept at the head of his bed "Twenty bookes, clad in blak or reed, Of aristotle and his philosophie."[61] He is utterly devoted to his vocation and "Of studie took he moost cure and moost heede"[62]. He had no source of income other than donations from those for whom he offers to pray if they keep him in the classroom. This is a portrait of the otherworldly scholar who still deserves respect for his single-minded pursuit of knowledge. Even the tale that the Clerk tells the rest of the company of pilgrims is all about patience and stoicism. In contrast, Nicholas, the wily hero of the Miller's Tale, has little time for serious study and "al his fantasye Was turned for to lerne astrologye"[63] as this gave him a nice little earner in weather forecasts. Nicholas and the students of the lewd Reeve's Tale are far more concerned about sex, music and fighting so appear to be the kind clerk that the disciplinary statutes mentioned above are concerned with. Perhaps the fact that Chaucer confines the idle students to the tales and actually travels with a virtuous one suggests he might feel the latter was a better reflection of real life. It is also worth noting that astrology is not mentioned in respect of the worthy clerk who instead devotes his time to Aristotle's philosophy. It would seem that the demarcation between illicit and honourable study was well understood by educated men and while there was

[57] *Monumentia Academia* page 243 "*de ipsius idoneitate in scientia et moribus*"
[58] Southern *Church and Society* page 278
[59] Southern *Church and Society* page 294
[60] *Monumentia Academia* page 388
[61] Geoffrey Chaucer *The Canterbury Tales* I, 294 – 295; *The Riverside Chaucer* 3rd edition (Oxford, Oxford University Press, 1988)
[62] Chaucer I, 303
[63] Chaucer I, 3191 – 3192

a great deal of crossover between astrology and astronomy, Chaucer makes it clear that Nicholas is engaged in matters that are not part of his official studies. There are strong hints that astrology was a prohibited subject and this was a field that Chaucer was very familiar with as he had written a *Treatise on the Astrolabe* himself. Cecco's interests lay in this area too and the defensiveness of some of his writing shows he knew his studies did not meet with universal approval.[64]

4) Science and the Church

The rise of the universities was part of a widespread intellectual movement sometimes dubbed the twelfth-century renaissance. New texts from the ancient world were rediscovered and quickly put to work in various fields such as the *Corpus Juris Civilis* of Justinian (c. AD483 – AD565) in civil law,[65] the works of Aristotle in natural philosophy and the collection of Greek and Arab treatises, known as the *Articella,* in medicine.[66] In other subjects existing knowledge was carefully assembled and analysed in a way that provided compilations of texts as a basis for further study. In canon law, the *Decretals* of Gratian (fl. 1140)[67] took on this role while in theology it was the *Sentences* of Peter Lombard (1100 – 1160).[68] Together with Arabic commentaries, these texts were the foundation of the scholastic tradition in all university faculties. As we shall see, there was some debate about the place of these ideas in Christian society but by 1300 all these texts were widely taught and soon acquired an almost canonical status.

The best known dispute about the place of natural philosophy in a Christian institution was the thirteenth-century question about the proper use of Aristotle at the University of Paris. This has been well rehearsed in the secondary literature[69] and so the misleading impression has resulted that the situation here is representative of the rest of Europe. However, there is no trace of any similar controversy in Italy or Spain, perhaps due to the lack of theology faculties at universities in these countries until the mid-fourteenth century.[70]

It is helpful to recap the story from Paris. In 1210, the local synod that condemned the followers of Amalric (fl. 1200) after his death (who is further considered below), tagged a ban on reading the natural books of Aristotle onto the end of the decree. It read "neither the books of Aristotle on natural philosophy nor their commentaries are to be read at Paris either in public or secret."[71] The ban was echoed in a declaration of 1215 by the Arts Faculty on the books that its students should be studying.[72] But this was followed in 1231 by two letters from Pope Gregory IX (1145 – 1241), one of which absolves those guilty of breaking the previous ban[73] and the other that admits to

[64] Lynn Thorndike *History* volume II, page 962
[65] Stephen Kuttner 'The Revival of Jurisprudence' in *Renaissance and Renewal in the Twelfth Century* eds. R Benson and G Constable (Oxford, Oxford University Press, 1982) page 300
[66] Lindberg *Beginnings* page 331
[67] Brundage *Medieval Canon Law* page 49
[68] Peter Biller *The Measure of Multitude* (Oxford, Oxford University Press, 2000) page 33
[69] Grant *Foundations* pages 70 – 71
[70] Monika Asztalos 'The Faculty of Theology' in *A History of the University* page 433
[71] Thorndike *University Records* page 26; *Chartularium universitatis parisiensis* volume 1, s11, page 70
[72] *Chartularium universitatis parisiensis* volume 1, s20, page 78
[73] *Chartularium universitatis parisiensis* volume 1, s86, page 143

the usefulness of Aristotle and calls for a committee to be set up to purge his works of error. This letter states

> Since we have learned the books on nature that were prohibited at Paris… are said to contain both useful and useless matter, lest the useful be vitiated by the useless, we command your discretion… that examining the same books as is convenient subtly and prudently, you entirely exclude what you shall find there erroneous or likely to give scandal or offence to readers so that… the rest may be studied without delay and without offence.[74]

It is inconceivable that the Pope was acting on his own initiative as the volume of business that reached the curia was now enormous and the entire process essentially reactive. The popes had increased their power by encouraging people to appeal directly to them over the heads of local authorities rather than intervening without an invitation.[75] Hence, the letters of 1231 are most likely in reply to an attempt by the Aristotelian party in the Arts Faculty to overthrow the previous ban and from whom the Pope learnt of the usefulness of the natural books. In this they were largely successful. The Pope's order for the natural books to be corrected is best seen as just a sop to the theologians which was then ignored. Indeed, come 1255 the Arts Faculty were bold enough to issue a syllabus with all the previously banned works of Aristotle included.[76] Then, in 1270, the controversial work of Siger of Brabant (fl. 1266 – 1281) led Stephen Tempier (d. 1279), Bishop of Paris, to condemn thirteen propositions derived from the Arab philosopher, Averröes (1126 – 1198), known as the Commentator on Aristotle.[77] Siger was an influential Master of the Arts who had strayed into discussing theological questions and so the condemnation may have had less to do with heresy than with the theologians protecting their turf. Having won on Aristotle, the Arts Faculty were happy to concede the point and by 1272 their masters swore upon their inception not to consider theological questions.[78] Siger, keeping up the fight, found himself before an inquisitor and hence fled to Italy where he was apparently murdered by his secretary.[79] The Pope (once again, almost certainly as a result of a request from Paris and perhaps due to Siger himself appealing) ordered Tempier to investigate, although JMMH Thijssen thinks he was acting on his own initiative.[80] This led to the famous condemnation of 219 false opinions drawn from the ideas of Aristotle and Averröes.[81]

This condemnation of 1277 represents the high water mark of theological efforts to contain the doctrines of Aristotle. The effect it had is very hard to gauge and it managed to brand some of the work of St Thomas Aquinas (1225 – 1274) himself as heresy.[82] The year after he was canonised in 1323, all his opinions were declared

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[74] Thorndike *University Records* page 39; *Chartularium universitatis parisiensis* volume 1, s87, page 143
[75] Southern *Church and Society* page 117
[76] *Chartularium universitatis parisiensis* volume 1, s246, page 278
[77] Thorndike *University Records* page 80; *Chartularium universitatis parisiensis* volume 1, s432, page 432
[78] Thorndike *University Records* page 85; *Chartularium universitatis parisiensis* volume 1, s442, page 500
[79] JMMH Thijssen *Censure and Heresy at the University of Paris* (Philadelphia, University of Pennsylvania Press, 1998) page 46
[80] Thijssen *Censure and Heresy* page 44
[81] R Lerner and M Mahdi *Medieval Political Philosophy: A Sourcebook* (New York, Cornell University Press, 1963) page 337
[82] Grant *God and Nature* page 13

orthodox by the then Bishop of Paris, Stephen of Porreto,[83] and this threw the 1277 condemnation into some disrepute as it clearly said some of these opinions were heretical. Certainly we do not seem to find the condemnation frequently referred to as an important body of doctrine. It appeared that the synthesis between moderate Aristotelianism and Christianity was victorious over both Averroists and conservative theologians although this did not prevent numerous other philosophical schools from being supported in the years that followed.

At Oxford, Richard Kilwardby (d. 1279), the Archbishop of Canterbury, a Dominican and Paris graduate, issued his own condemnations barely a fortnight after Tempier in 1277[84] probably in reciprocation. These numbered only thirty, ranging over grammar, logic and natural philosophy, but largely echoed the anti-Averroist slant of the original. Writing many years later, William of Ockham (d. 1347) reported that the university regarded Kilwardby as acting rashly ('*temere*')[85] despite the fact he claimed to be acting 'by the consent of all the regent and non-Regent Masters'[86] (unlikely given the short time frame) and that he only declared the condemned opinions as being unsuitable for public discourse. The penalty for breaking Kilwardby's injunction was expulsion from Oxford rather than arraignment for heresy so it is unlikely that the statements were considered formally heretical. Opinions could be designated heretical, erroneous or merely rash.[87] Nor was Kilwardby taken terribly seriously. When the next Archbishop of Canterbury, John Peckham (d. 1292), another university master and a Franciscan, came to renew the prohibition, he had to chase up Oxford's scholars twice and was eventually forced to ask the Bishop of Lincoln if he had a copy of Kilwardby's proceedings.[88]

The most important result of the long argument about Aristotle in the thirteenth century was that the Masters of the Arts were to be allowed to study all that they liked just so long as they avoided explicitly religious subjects.[89] Indeed by 1341, the Arts Faculty could declare that, as long as not contrary to the faith, scholars should follow the teachings of Aristotle and Averröes rather than anyone else,[90] and in 1346, even Pope Clement VI, himself a Parisian master, was insisting on the primacy of these two authors.[91]

5) Studying Natural Philosophy

Natural science during the Middle Ages was essentially a theoretical subject and branch of philosophy, hence the usual term of natural philosophy used to describe it.

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[83] RE Brennan 'The Troubadour of Truth' in *Essays in Thomism* ed. RE Brennan (New York, Sheed and Ward, 1942) page 15
[84] *Chartularium universitatis parisiensis* volume 1, s474, page 558
[85] Ellen Sommer-Seckendorff 'Studies in the Life of Robert Kilwardby' *Discertationes Historiae,* fasc VIII (Rome, 1937) page 131
[86] *Chartularium universitatis parisiensis* volume 1, s474, page 558 "*de consensu omnium magistorum tam non regencium quam regencium*"
[87] William J Courteney 'Inquiry and Inquisition: Academic Freedom in Medieval Universities' *Church History* 58 (1989) page 174
[88] *Registrum Epistolarum Fratis Johannis Peckham Archiepiscopi Cantuariensis* ed. (London, Longman & Co, 1884) *Rerum Britannicam Medii Aevi Scroptores (Rolls Series)* 77 pages 862 and 944.
[89] McLaughlin *Intellectual Freedom* page 96
[90] Thijssen *Censure and Heresy* page 61; *Chartularium universitatis parisiensis* volume 2, s1185, page 680
[91] McLaughlin *Intellectual Freedom* page 139

Although the masters Roger Bacon (c. 1219 – 1292), St Albert the Great (c. 1206 – 1280) and John Buridan (c. 1300 – 1358) all praise the concept of "experience",[92] in fact it appears that controlled observation, experimentation and technological work were not matters the academic natural philosopher involved himself in. They did not like to get their hands dirty and instead used thought experiments to analyse situations while never actually seeking to repeat the process in the real world.[93] Indeed, the exact relationship between natural philosophy and physical reality remains puzzling. Following the ancient Greeks, the schoolmen practised a form of instrumentalism in order to save the appearances of phenomena. This means that they wanted to construct conceptual explanations without being too concerned over whether or not reality corresponded closely to them. With the empirical scepticism of William of Ockham of the fourteenth century,[94] all natural science was reduced to hypotheses which reason alone could not distinguish. This lends an extremely rarefied character to much of scholastic natural philosophy. The issue became most acute in the Renaissance during the debate as to whether Nicolaus Copernicus's (1473 – 1543) heliocentric model was a useful fiction or, as Copernicus implied in a step said to be a vital break from the Middle Ages,[95] the ways things really are. Other medieval ideas, like the mean speed theory of the Merton calculators (which describes motion under uniform acceleration and was applied to all sorts of situations we might consider inappropriate) do not appear to have been the object of experimentation either.[96] The mean speed theory also described the motion of a free falling body but no one seems to have realised this.

While natural philosophy was based largely on the work of Aristotle, the fact that he was fallible was realised early. In second-century Alexandria, Ptolemy found that he needed to enhance his cosmology of pure circles with epicycles and other additions even while keeping to a geocentric system.[97] In the sixth century another Alexandrian, John Philoponus (fl. AD625), noted that heavy objects do not fall faster than light ones as the Philosopher claimed that they must do.[98] And the debates of the thirteenth century that culminated in the 1277 condemnations established that when there were clear conflicts between his philosophy and the Christian faith, the latter should always prevail. This was not much of a handicap, as on the subject of physical science, faith did not really have a lot to say. The bible could be read non-literally where necessary, as St Augustine of Hippo (AD354 – AD430) himself allowed,[99] so William of Conches (c. 1080 – c. 1154) could even claim the creation account in Genesis must be figurative if it were not to be absurd.[100] Nearly everyone agreed that the earth was a sphere even though the Bible implied a flat earth. But where Aristotle and faith were in clear conflict, such as his claim that the world was uncreated and eternal, it weakened his authority and allowed his ideas to be challenged.

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[92] Grant *God and Nature* page 160
[93] Grant *God and Nature* page 168ff
[94] Edward Grant 'Late Medieval Thought, Copernicus and the Scientific Revolution' *Journal of the History of Ideas* 23:2 (1962) page 212
[95] Grant 'Late Medieval Thought' page 212
[96] Grant *Foundations* page 100
[97] Brian Stock 'Science, Technology and Economic Progress in the Early Middle Ages' in *Science in the Middle Ages* page 6
[98] Stock 'Science, Technology and Economic Progress' page 11
[99] Augustine *On Christian Teaching* III, 10, xiv trans. Roger Green (Oxford, Oxford University Press, 1999)
[100] Huff *Rise* page 104

The interaction of different authorities opened the door to the idea of a developing body of knowledge, which is often assumed to have been absent from the medieval outlook[101]. While there was certainly no sense of the Baconian project of human improvement, the fact that ideas were being discussed, criticised and rejected does suggest a desire for new knowledge rather than just commenting on an existing corpus that was supposed to contain all the answers, if only they could be extracted. In the main, however, it was the schoolmen's propensity to put the authorities before observation that held sway, as parodied by Galileo (1564 – 1642)[102] and vividly demonstrated by the inability of anatomists prior to Andreas Vesalius to note the deficiencies in Galen's schema. Theoretical work to improve explanations gave rise to impetus theory from the likes of John Buridan; Nicole Oresme's (d. 1382) considerations about possible rotation of the earth; and eventually Copernicus who moved the sun to the centre of the universe. But none of these men, except perhaps Copernicus himself, ever did much in the way of experiments or observations to verify their hypotheses.[103]

6) The Limits of Natural Philosophy

The 1277 condemnations set out certain doctrines that were declared to be false and heretical. There is little in the way of explanation as to why particular ideas are deemed to be wrong, aside from some of the condemnations having very short glosses limiting their scope. It is also by no means clear that all of the condemned opinions, which both repeat and contradict themselves, were actually held by anyone. However, we must not overlook the atmosphere of oral dispute and debate in Paris at that time which never made it into manuscript but could have contributed to the milieu that led to the condemnation. In the discussion below, the numbers refer to the articles as ordered in the English translation of the condemnation in R Lerner and M Mahdi's *Medieval Political Philosophy: A Sourcebook*.[104]

A sizeable number of the condemnations attack what appears to have been a quite daring level of unbelief. Among those opinions to be condemned are that death means personal extinction (213); that there is no heaven (172 and 174) or hell (219); that miracles that defy nature are impossible (17 and 69); that deduction and philosophy are the only way to know something (4 and 184) and that prophetic visions do not occur (177). These statements seem to have been culled from regular lists of beliefs that were uttered by heretics at various times in the past. A certain Paul of St Pere of Chartres, at his trial in 1022 at Orleans, denied the immortal soul and other doctrines[105] while inquisitors in the Languedoc came across denials of heaven and hell.[106] Vegetarianism and reincarnation are also struck down (173 and 137) – the former had appeared in a heresy reported to Wazo of Liège in 1048.[107] There was little room for the new age or

[101] AG Molland 'Medieval Ideas of Scientific Progress' *Journal of the History of Ideas* 39:4 (1978) pages 561 – 577
[102] Quoted in Grant *God and Reason* page 308
[103] Grant *God and Nature* page 179
[104] R Lerner and M Mahdi *Medieval Political Philosophy* page 337ff; *Chartularium universitatis parisiensis* volume 1, s473, page 543ff
[105] *Heresy and Authority in Medieval Europe* ed. Edward Peters (London, Scolar Press, 1980) pages 66-71
[106] John Arnold *Inquisition and Power* (Philadelphia, University of Pennsylvania Press, 2001) page 168
[107] Arnold *Inquisition* page 19

atheism in medieval Paris but these articles tell us little about what was being discussed there and more about the perennial fears of the Church authorities.

The eternity of the world is central to Aristotle's natural philosophy and he regards it as being almost impossible to deny.[108] This contradicted not only the plain reading of Genesis but also Plato's (c. 428BC – 327BC) Timaeus which had been one of the few sources of Greek natural philosophy to be known throughout the early Middle Ages in Western Europe. At least eight of the condemnations address this point (83 to 91) and many others touch on issues that imply it such as those about the first cause.

Apart from the eternity of the World, the most significant issues were the existence of other Worlds (27), the extent of determinism (102 and 168), God's ability to override natural law (17 and 69) and influence of the heavens (76, 104, 172 and 174). It will be noted that many of these questions have continued to exercise thinkers ever since and also that they would be classed as 'philosophical' rather than 'scientific' in today's climate. Pierre Duhem has suggested that closing off these questions forced natural science away from a philosophical agenda and towards the consideration of purely naturalistic questions.[109]

Whether or not many Worlds existed was a concern for a number of reasons. By 'World', the natural philosopher meant Universe rather than an inhabited planet although given the special place of Earth at the centre of the world, the existence of another Earth probably did imply a whole new universe. There were two related questions: if other worlds actually existed and if it was even possible for them to do so. Nobody really subscribed to the former, as Aristotle rejected the idea[110] and it threw up enormous theological problems such as the need for multiple redeemers. But the radicals, against whom the condemnations were aimed, apparently went further and said there could only be one world as a matter of basic axiom. This went too far as it implied an unacceptable limitation on the power of God to create as many worlds as He pleased even if people were willing to accept that, in fact, he had only deigned to create one. The question of determinism can be seen in a similar light with the radicals, inspired by Averröes, claiming that the physical world could only be the way it is and that natural laws were immutable.[111] Again, this contradicted the view that God could have come up with different natural laws to the ones He actually decided on.

For Masters of the Arts who did want to explore these questions and consider answers that were contrary to the faith, a number of strategies were available to avoid accusations of heresy. The initial idea, actually attacked in the 1277 condemnation, had been to insist on a very strict demarcation between natural philosophy and theology that even allowed for different answers to be true in different fields. Hence, the universe could be eternal in the Arts Faculty but contingent for the faithful (who did of course include the members of the Arts Faculty). This mental gymnastics was swiftly rejected by the authorities who, like all good realists, felt that something was either true or it was not. Stephen Tempier dismisses the conceit in his preface to the

[108] Aristotle *De Caelo* I, 8; *The Complete Works of Aristotle* ed. Jonathan Barnes (Princeton, Princeton University Press, 1984)
[109] Grant *Late Medieval Thought* page 200
[110] Aristotle *De Caelo* I, 9
[111] William A Wallace 'The Philosophical Setting of Medieval Science' in *Science in the Middle Ages* page 104

condemnation 'For they say these things are true according to Philosophy but not according to the Catholic faith as if there were two contrary truths' while specific instances of the doctrine of two truths are condemned later on (189 and 191). It does indeed seem difficult to justify teaching the law of non-contradiction within faculties while maintaining that it does not apply between them. Instead, as mentioned above, Parisian Masters of the Arts had been required from 1272 to swear that they would not work on controversial theological issues and would side with the accepted faith on any issue that they came across.[112]

The condemnation was keen to promote the power and freedom of God, but it was also firm on the status of certain dogmatic truths. This meant that while it was stating the way things actually were, it was equally adamant that they could be otherwise if God so ordained. It was only through revelation (which, although it included God's work in the natural world, was most importantly the words of the Bible) that man could ascertain exactly how God had decided to order things. Beyond the simple fact of His existence, which thinkers such as Aquinas[113] and St Anslem of Canterbury[114] insisted could be determined by reason, most of what could known about God was what He chose to tell us. Clearly, philosophy should not contradict revelation but it could, perhaps, aid in its interpretation. It could also speculate about things that were not as well as things they were, as long as it was not claiming how things had to be.

For natural philosophers this presented an open door. They could not say there were other worlds, but they could speculate to their hearts content about what they might be like if God had chosen to create them. Likewise, the natural laws of Aristotle lost some of their force as they could no longer be considered logically necessary. God could have set the world to run in a different way to how the Philosopher thought he had to. And, as some thinkers like John Buridan, realised, God had in fact ignored some of Aristotle's prescripts after all.[115] So if a master wanted to consider a matter that was considered to be contrary to doctrine or reality he would use the formula "if by God's absolute power…" and then state his counterfactual.[116] The shift from Aristotle's claim that things had to be the way they were to the scholastics' claim that they could have been otherwise opened up a considerable space for intellectual peregrination.[117]

Another technique that allowed the widest consideration of ideas was the use of the *disputatio*. This was the standard format of oral disputation used to express ideas in a rigorous fashion that allowed all the arguments both for and against to be set out and criticised. Final examinations often involved the student having to settle a question in a public disputation with his master.[118] It was used in both natural philosophy and theology and gave rise to a genre of scholarly literature known as *quaestio* which became exceedingly widespread. [119] These debates could become very heated and we

[112] Thorndike *University Records* pages 85; *Chartularium universitatis parisiensis* volume 1, s422, page 500
[113] Aquinas *Summa Theologica* I, 2, ii; trans. Fathers of the English Dominican Province (London, Burns Oates and Washbourne, 1920 – 1932)
[114] Anselm of Canterbury *Proslogion* III, *Anselm of Canterbury: The Major Works* trans. GR Evans (Oxford, Oxford University Press, 1998)
[115] Grant *Foundations* page 165
[116] Grant *Foundations* page 224
[117] Grant *Foundations* page 83
[118] Grant *Foundations* page 42
[119] Brian Lawn *The Rise and Decline of the Scholastic 'quaestio disputata'* (Leiden, Brill, 1993) page 1

have a Parisian decree from the Arts Faculty stating that students must not interrupt their masters and if they wished to comment should make respectful signals, presumably putting their hands up instead of shouting out.[120]

The advantage of this format was that it allowed arguments on both sides of the question to be fully aired as long as the final conclusion did not contradict the faith. Hence one could come up with as many heretical opinions as one liked and give the best arguments for them. For example, in his *Summa Contra Gentiles*, St Thomas Aquinas asks whether the universe had always existed as Aristotle believed - an opinion specifically contrary to Catholic dogma and the focus of many of the 1277 condemnations.[121] He begins by stating the contrary to the accepted view that the world is not eternal and backs this up with ten objections to the orthodox teaching derived from the work of Aristotle or the church fathers. He then gives the scriptural quotations that seem to contradict the objections so that he can then expound his own synthesis. Finally he provides answers to each of the initial objections and refutes them one by one. The arguments that the world is eternal get a full hearing before they are disposed of although the end result is never really in doubt. Later, such as in the works of Nicole Oresme in the fourteenth century,[122] the questions became longer and more elaborate but the basic structure remains the same.

If a writer was actually accused on expounding heretical opinions there were a number of defences that he could use. The case of John of Mirecourt in 1347 in Paris, studied in depth by JMMH Thijjsen,[123] provides an excellent case study of what these defences were and how successful they could be. John gave either a flat-out denial, with no further explanation, that he had said what he was accused of saying (this defence was successful in all five cases he used it); an explanation of what he really meant; an insistence that the alleged error was not in fact heretical at all; or an appeal to the authority of the church fathers. He was successful in having half the articles struck out but it was also open to the prosecution to add more errors at this stage. So, whereas John was able to deflect about thirty accusations, he found himself faced with an additional fifteen of them. The end result was an agreed list that was promulgated with John's retraction attached as well as instructions from the Chancellor of the university forbidding the opinions to be held, asserted or defended publicly or privately[124].

7) Subjects beyond the Fringe

According to his condemnation, Cecco's crime was to have expressed "a bad and substantial saying concerning the Catholic faith"[125] - words that could cover a multitude of sins. We know he was an astrologer and was accused of pushing the envelope further than the Church found acceptable with regard to both magic and determinism.

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[120] Thijseen *Censure and Heresy* page 62; *Chartularium universitatis parisiensis* volume 2, s1185, page 680

[121] Aquinas *Summa Theologica* I, 46, i

[122] Oresme's question on the existence of many worlds quoted in full in Grant *God and Reason* pages 154 - 158

[123] Thijssen *Censure and Heresy* page 82; *Chartularium universitatis parisiensis* volume 2, s1147, page 610

[124] William J Courtenay 'The Condemnation of John of Mirecourt: its Original Form' *Recherches de Theologie Ancienne et Médiévale* (1986) page 190

[125] See the Appendix to this dissertation

With natural philosophy accepted as "useful"[126] by the word of the Pope himself, it became worthwhile for interested parties to try to bring as many subjects as possible within its remit. Magic, alchemy and astrology were commonly practised both by Masters of the Arts, such as Cecco, Arnald of Villanova (c. 1240 – 1311) and Peter d'Abano (c. 1250 – 1316), as well as many clergymen.[127] The precise extent to which these arts were acceptable was a matter of considerable debate with the most tolerant position taken in works like St Albert the Great's *Speculum Astronomiae* and the most conservative by St Augustine's *City of God*.

The real issue behind the debate on these subjects was whether it was ever possible for magic to be legitimate. It was generally agreed, as Aquinas showed,[128] that natural magic was acceptable since this involved only the manipulation of the innate properties of nature. Some phenomena that were once classed as natural magic, such as magnetism, static electricity and medicinal herbs have since been subsumed into natural science. Other aspects, such as the sympathy between objects, have been rejected because they do not appear to work rather than due to any concerns about them being supernatural. Because natural magic was acceptable, there were efforts to widen its definition to include using amulets and charms as described in *Picatrix*, an Arabic manual, despite Augustine's clear prohibition.[129] Albert the Great was far more sympathetic to this idea and claimed that as long as no demons were explicitly involved, then using the occult properties of materials, even if enhanced by symbols, was acceptable.[130] Everyone agreed that consorting with demons was a bad thing (although some people did try it as surviving necromantic manuscripts demonstrate) but even here there was debate about what constituted a demon and to what extent exorcisms (which could involve binding as well as driving out the demon) could be used.[131]

Aquinas condemns the notary art whereby a ritual was used to acquire knowledge by magical means.[132] This knowledge, he said, came from demons who were probably lying anyway so the whole practice was nefarious. Not so, said practitioners who claimed they were using the notary art to be educated by angels and that the use of liturgical fragments in the ritual ensured the benevolence of the beings summoned.[133] However, the Church continued to insist that almost all forms of magical practice were superstition and not legitimate.

Alchemy was also a subject that could be treated with suspicion. The reasons for this poor reputation were in part because of concern about fraudulent activity where fake gold was passed off as the real thing. In 1317, John XXII (1249 –1334), who ironically has an alchemical treatise ascribed to him, issued a decree, *Spondent quas non*

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[126] Thorndike *University Records* page 39; *Chartularium universitatis parisiensis* volume 1, s87, page 143
[127] Richard Kieckhefer *Magic in the Middle Ages* (Cambridge, Canto, 2000) page 153
[128] Aquinas *Summa Theologica* II(2), 96, ii
[129] Augustine *City of God* X. 11 trans. Henry Bettenson (London, Penguin, 1984)
[130] Albert the Great *Speculum Astronomiae* X; Paolo Zambelli *The Speculum Astronomiae and its Enigma* (Boston, Kluver Academic Publishers, 1992) page 247
[131] Kieckhefer *Magic* page 157
[132] Aquinas *Summa Theologica* II(2), 96, i
[133] Frank Klaassen 'English Manuscripts of Magic, 1300 – 1500' in ed. Claire Fanger *Conjuring Spirits* (Stroud, Sutton, 1999) page 18

exhibent, against those who sought to pass off their creation as real gold. While the decree does not outlaw alchemy in itself, it certainly denies the possibility of transmutation saying "though there is no such thing in nature, [alchemists] pretend to make genuine gold and silver by a sophistic transmutation".[134] On the other hand, Aquinas had analysed the question of whether gold created by an alchemist could be honestly sold and concluded "if real gold were to be produced by alchemy, it would not be unlawful to sell it for the genuine article, for nothing prevents art from employing certain natural causes for the production of natural and true effects".[135] The canonists agreed[136] and Henry VI (1421 – 1471) of England granted a licence to people who said they could make gold at will, seemingly unaware of the inflationary problems this would engender for his economy.[137] Many medieval writers were much more sceptical and the fact that alchemists were far more adept at losing money than generating it was a constant satirical theme. As Chaucer's Canon Yeoman wryly admits "We blondren evere and pouren in the fir, And for al that we faille of oure desir".[138] Like John XXII, secular rulers who legislated against alchemists were primarily acting against fraud and, like Henry IV of England (1367 – 1413),[139] were often quite brutal. However, there was no theological impetus to specific enactments against alchemy even though it was often mixed up with other elements of the occult. The general prohibitions against magic were deemed sufficient but that alone was enough for the Dominicans to ban members of the order from practising it in 1323.[140]

Astrology could enjoy a much more respectable profile and was even explicitly sanctioned by the laws of Alphonso X of Castile (1221 – 1284), called the Wise.[141] On the other hand, the same art was attacked by a wide range of writers such as Nicholas Oresme[142] and Pico della Mirandolla (1463 – 1494),[143] neither of whom were necessarily averse to radical thoughts. Augustine is predictably against it, stating that even when astrologers got it right "these true predictions do not come from any skill in the notation and inspection of horoscopes" but from demonic assistance[144].

Again, Aquinas's views represent a conservative consensus.

> The heavenly bodies cannot be the direct cause of the freewill's operations. Nevertheless they can be a dispositive cause of an inclination to those operations, in so far as they make an impression on the human body, and consequently on the sensitive powers which are acts of bodily organs having an inclination for human acts… Accordingly if anyone take observation of the stars in order to foreknow casual or fortuitous future events, or to know with certitude future human actions, his conduct is based on a false and vain opinion; and so the operation of the demon introduces itself therein, wherefore it will be a superstitious and unlawful divination. On the other hand if one were to apply the observation of the stars in order to foreknow those

[134] Quoted in James Walsh *The Popes and Science* (London, Catholic Truth Society, 1912) page 125
[135] Aquinas *Summa Theologica* II(2), 77, ii
[136] Thorndike *History* volume 3, page 50
[137] D Geoghegan 'A Licence of Henry VI to Practice Alchemy' *Ambix* 6 (1957) page 10
[138] Chaucer VIII, 670 - 671
[139] F Sherwood Taylor *The Alchemists* (New York, Henry Schuman, 1949) page 124
[140] Thorndike *University Records* page 168; *Chartularium universitatis parisiensis* volume 2, s821, page 271
[141] Thorndike *History* volume 2, page 814
[142] Kieckhefer *Magic* page 129
[143] Thorndike *History* volume 4, page 529
[144] Augustine *City of God* V. 7

> future things that are caused by heavenly bodies, for instance, drought or rain and so forth, it will be neither an unlawful nor a superstitious divination.[145]

The discipline can be conveniently broken down into three branches: natural astrology, horoscope astrology and judicial astrology. The first of these dealt with weather forecasting and the most general effects of the stars on earthly life, the second made predictions about individuals based on the time of their birth and the third answered specific questions such as when it was a propitious time to start a journey or a war. Natural or philosophical astrology was widely agreed to be entirely legitimate and formed part of natural philosophy proper. It was a theoretical subject that examined the way that the heavens might influence the weather, tides and other physical matters.[146]

The stellar influence on individual personalities was the central tenet of horoscope astrology. This allowed for the stars to have an impact on behaviour which could help to ascertain how the individual might act. In order to find this out, an astrologer would prepare a horoscope, geniture or nativity chart that depended on knowing the exact place and hour of birth, mapping the heavens at that time and making pronouncements based on the results. It was the position of the planets which most concerned astrologers rather than the sign of the zodiac in which one particular planet, the Sun, was situated in. The influences of each planet, its position and relationships to other objects in the sky produced infinite permutations that made the analysis of a nativity an extremely subjective exercise.[147] This meant that the skill of a given astrologer was a very important factor in successfully predicting character, and the skill in question was rarely that of astrology. There was a good deal of confusion as to whether a horoscope could give information about the fate of the individual concerned or simply point out a general traits. In other words, could the astrologer warn of a propensity to fits of temper or more exactly predict a violent death? Could he claim someone had a golden tongue or actually foresee a wonderful career as an orator? Perhaps, an astrologer would sell his services on the basis of the later while pleading the former when the future cardinal died of consumption aged only five.

The view of the Church towards horoscopes was mixed. Studying stellar influence was acceptable and the science of astrology, when restricted to examining general facets, was not much different to the work of the physicians. But true divination was not possible using natural means and hence must be forbidden to good Christians. One other thing was absolutely certain to the Church – in no way could a human being's freewill be nullified by the stars. This was expressed many times by the Paris Theology Faculty in the various condemnations of 1270, 1277 and 1398.[148] Freewill and hence moral responsibility were to be preserved at all costs. Another controversial aspect was the way that sacred history interacted with astrology. Each civilisation had its own planet and as the equinoxes moved through their stately procession over 36,000 years, empires rose and fell.[149] But once again, there was a conflict with divine providence – did not Israel fall to Sargon II (r. 721BC – 705BC) because the Lord willed it? An

[145] Aquinas *Summa Theologica* II(2), 95, v
[146] Kieckhefer *Magic* page 127
[147] Anthony Grafton *Cardano's Cosmos* (Cambridge, Harvard University Press, 1999) page 8
[148] Thorndike *University Records* pages 80 and 261, R Lerner and M Mahdi *Medieval Political Philosophy* article 104; *Chartularium universitatis parisiensis* volume 1, s432, page 432 and volume 4, s1749, page 32
[149] R Lerner and M Mahdi *Medieval Political Philosophy* article 92

astrologer had to tread carefully if he was to avoid belittling the role God played in steering the divine plan.

Less controversial was the use of astrology by physicians who also believed that the human body was affected by the stars and devoted considerable thought into exactly how this effect might be caused. They were particularly keen to use horology to check the stars to find the precise time to draw blood, and this was considered a vital skill as Cecco himself mentioned the preface to his *Commentary on the Sphere*.[150] Even sceptics continued to preach the value of getting the time exactly right. Bernerd Gordon admits that he had once got it wrong without any ill effect but even he still advised sticking to the received wisdom.[151]

It was not just bleeding that the astrology could advise the best time for. Guido Bonatti (c. 1235 – c. 1295) was one of the first court astrologers, working for Guido da Montefeltro (1223 – 1298) in Forli who reportedly would not do anything without the advice of the stars.[152] But the concept of the stars being able to influence events day by day, whether it was a battle, a journey or a love affair, was a dangerous one if it seemed to interfere with divine providence. The orthodox Christian might be able to accept that the stars had a natural and significant effect on events but would insist that God could overrule it if he so wished while each individual's freewill could also overcome their influence.

Astrologers therefore, had to beware two pitfalls if they were to remain on the right side of the Church. Firstly they had to avoid determinism. As we saw above, this doctrine was declared unlawful by Aquinas, as well as repeatedly the subject of condemnations by the Paris Theology Faculty. The teaching on this matter was clear and unambiguous so that even the hardcore astrologers were quick to pay lip service to it in their work. Their defence was that while the stars could signify future events they did not cause them and consequently determinism was not an issue.[153] Secondly, one must not have any truck with demons. As the astral magic of *Picatrix* was closely tied to astrology this was not always easy to do and many of the most famous practitioners acquired dubious reputations. Guido Bonatti quickly gained a name as a necromancer and, although he died peacefully, the afterlife was not so kind. Dante Alighieri (1265 – 1321) condemned him (and his patron Guido da Montefeltro[154]) to the Inferno[155] and by the Renaissance he was thought to have met a nasty fate as a result of drawing up the geniture of one individual who was completely off limits – Jesus of Nazareth himself.[156] Girolamo Cardano (1501 – 1576), the famous polymath of the sixteenth century, also prepared this geniture and it was certainly one of the matters that led to him being a guest of the Inquisition for a short time.[157] The well known physician, Peter D'Abano, managed to escape censure during his lifetime despite writings about

[150] Nancy Siraisi 'The Faculty of Medicine' in *The University in Europe* page 376
[151] Thorndike *History* volume 2, page 856
[152] Kieckhefer *Magic* page 123
[153] Kieckhefer *Magic* page 128
[154] Dante Alighieri *The Divine Comedy – Inferno* trans. Henry Cary (New York, PF Collier & Son, 1909 –14) Canto XXVII, line 19
[155] Dante *Inferno* Canto XX, line 116
[156] Grafton *Cardano* page 151
[157] Grafton *Cardano* page 152

astral magic that may be directly derived from *Picatrix*.[158] However, after he died he was not so lucky and Thomas of Strasbourg claims that he saw his bones being exhumed and burnt in Padua[159].

It seems likely that Cecco was guilty of both misdemeanours – both for his interest in astral magic and deterministic leanings. Like Bonatti, he was pictured burning in hell, this time as a fresco in the Sienna campo[160] which was apparently destroyed in the Second World War. Villani's chronicle paints a portrait of Cecco as a man who was involved in those aspects of astrology that did not meet universal approval.[161] In particular he claims that Cecco was engaged in necromancy and we do find instructions for summoning astral spirits in his *Commentary on the Sphere*.[162] In his later remarks, the inquisitor, Franciscus Florentinius, echoes Villani when he reports that Cecco produced a nativity for Jesus Christ himself in which he said that Jesus was born in a stable and crucified not due to any divine plan but "by the influence of the heavenly bodies".[163] This, Franciscus exclaims, meant that not only was human freewill subjugated to the stars, but the will of God himself was a function of stellar influences. For such a statement Cecco was "deservedly" burnt. His witness is too late to be wholly reliable and may be dependent on Villani, but it does tell us what sort of astrological opinion a medieval inquisitor would have felt warranted the most serious treatment. Villani also briefly mentions predictions of political events that Cecco was supposed to have accurately made, while also emphasising that freewill remained paramount.[164] It is unclear whether it is Cecco or Villani making this point, as the historian also had to steer clear of any forbidden statements. After saying that Cecco predicted so much correctly Villani might have felt he had to retreat from the apparently deterministic position he had expressed. Once he had a reputation for unlawful astrological activities, Cecco had to tread carefully and this, it seems, he would not do.

8) Dealing with Heresy

Until the twelfth century, canon law was based on a mass of contradictory and confused writings including the works of the church fathers and decrees of church councils and local synods. As mentioned above, during the twelfth century, this material was assembled into a contradictory and confused collection commonly called the *Decretum* of Gratian which formed the basis of church disciplinary procedure for the whole of the Middle Ages. It was studied in depth by the doctors of the law who produced commentaries, drafted new laws and advised in cases.[165] Canon law was entirely separate from civil law which was based on a combination of local custom and the rediscovered codes of Justinian that were immediately recognised as greatly superior to current practice. The University of Bologna was originally founded as a convocation of law students who had gathered together to study the new law and

[158] Frances Yates *Giordano Bruno and the Hermetic Tradition* (London, Routledge Classics, 2002) page 76
[159] Thorndike *History* volume 2, page 943
[160] White *Warfare* page 35
[161] Giovanni Villani *Nuovo Cronica* XI, 41
[162] Thorndike *History* volume 2, page 959
[163] Thorndike *History* volume 4, page 322
[164] Giovanni Villani *Nuovo Cronica* XI, 41
[165] Brundage *Medieval Canon Law* page 49

sought to protect themselves by strength of numbers.[166] In all universities, the doctorates in the two laws were distinct qualifications that did not allow for very much common ground. We have seen how both civil authorities and the Church accepted that students were governed by canon law and were to be judged initially by their masters and then by the university.

Legal reform in the High Middle Ages is among the period's defining features and has given us one of the words most associated with it: 'inquisition'. The traditional form of legal process was called the *accusatio* where a case had to be brought by an accuser who was held responsible if the defendant was not convicted.[167] The verdict was reached either through a preponderance of character witnesses or else by a trial by ordeal. However, at the Fourth Lateran Council of 1215, the Church instructed its clerics to withdraw their support for trial by ordeal and repeated previous prohibitions against duelling,[168] which made such practices more difficult. This gave an impetus to reform which, while it was never an exclusively ecclesiastical preoccupation, was led by the Church. The *accusatio* was gradually replaced by the *inquisitio* whereby an accuser was no longer required and instead a magistrate investigated any cases brought to his attention before reaching a conclusion based on the evidence.[169] This reform was a resounding success which has formed the basis of the justice system in continental Europe ever since.

The *inquisitio* system's most notorious guise was what developed into the Inquisition. This grew from the fear of heresy spreading out of its Cathar strongholds of southern France and overwhelming the Church's efforts to deal with it. There were a series of papal bulls, councils and handbooks of practice that equipped inquisitors to deal with heresy as they came across it. Pope Lucius III (d. 1185) "supported by the power and presence"[170] of the Frederick II Barbarossa, issued the bull *Ad abolendum* in 1184, as a response to the growing Cathar crisis, in which he stated that unless heretics return immediately to the Church, they be "left to the discretion of the secular power to receive due punishment"[171] which was widely understood to mean burning under the law codes of the Empire.[172] Furthermore, those "convicted of having relapsed into abjured heresy," were supposed to be "left to the secular judgement" as well.[173] Using words similar to Lucian's, heresy itself was widely defined in canon 3 of the Fourth Lateran Council of 1215 and here also the requirement of both clerics and laity to hunt down heretics on pain of excommunication is made explicit with the need for regular visitations set out. The canon does, however, allow suspects to prove their innocence with a "proper defence".[174] The procedure of the inquisitors was laid out in field manuals that began to be produced around this time while councils and bulls continued to define what was permissible.

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[166] Brundage *Medieval Canon Law* page 46
[167] Arnold *Inquisition* page 30
[168] Canons of the Fourth Lateran Council, Canon 18 in H. J. Schroeder *Disciplinary Decrees of the General Councils: Text, Translation and Commentary* (St Louis, B. Herder, 1937) pages 236-296
[169] Peters *Inquisition* page 39
[170] *Heresy and Authority* page 170
[171] *Heresy and Authority* page 171
[172] Peters *Inquisition* page 56
[173] *Heresy and Authority* page 171
[174] Lateran IV, Canon 3

Gregory IX issued the two important bulls in 1231 that explicitly authorised the use of force rather than simply handing the prisoner to the secular arm. In *Excommunicamus* he specified, or rather admitted, that heretics were to be punished according to the *animadversio debita* or "debt of hatred" towards heretics that meant that they were deserving of execution.[175] Then in the same year he issued *Ille humani generis,* a letter to two Dominicans in Regensburg, Bavaria, which for the first time authorised papal sponsored inquisitors, who acted independently of the local diocese, and so deserves the title of the start of the Inquisition proper. In the letter, Gregory provided for the use of torture by granting the "free facility of using the sword against enemies of the faith" as well as granting absolution to those who did so.[176] Now the Church had explicitly signed up to both capital punishment and torture in a way that it had avoided in the past *de iure* if not *de more*. However, inquisitors were sparing in their use of torture, especially by the standards of contemporary secular regimes, and were more interested in reconciliation than revenge.[177] Capital punishment was only used after a second offence, where the heretic had previously confessed and done penance, or in the case of stubborn and impenitent heretics. Even then it was not compulsory and both the Council of Toulouse in 1229 and the Council of Tarragona in 1242 only called for lapsed heretics to be imprisoned if they adjure again.[178] Bernardo Gui (fl. 1307 – 1324), who spent ten years tracking down the last vestiges of Catharism in Toulouse during the early fourteenth century, executed forty of the seven hundred defendants who he sentenced.[179] More common forms of penance were fines, pilgrimages, prayers and sometimes imprisonment. Bernardo Gui is also well known for his *Practica inquisitionis*, a practical manual of the work of an inquisitor. It was by no means the first. In Carcasonne in 1248, *Processus inquisitoris* was produced by an experienced Dominican inquisitor for his underlings and sets out exactly how to go about the business of hunting heretics.[180] While not a tolerant document, it declares that "to no one do we deny a legitimate defence, nor do we deviate from the established legal procedure except that we do not make public the names of witnesses because of the decree of the Apostle's see."[181] Unlike the manuals, the bulls of Lucius III, Gregory IX as well as the canons of the Lateran Council applied to all ecclesiastical justice and not just the inquisitors who were simply freelance investigators outside the control of local bishops and had a mandate directly from the Pope.

Academics who were subject to the ecclesiastical justice could also expect a relatively light penance for a first offence. In the early fifteenth century, Blasius (c. 1345 – 1416), a master at the University of Parma, found himself hauled before the local bishop for utterances against the Catholic faith but a simple promise not to do it again sufficed and his career appears to have suffered no adverse effect.[182] One Angelo da Arezzo was fined 250 lira by an inquisitor in 1311 for his utterances against the faith although this was later overturned on appeal.[183] After his first trial before the

[175] *Heresy and Authority* page 190
[176] *Heresy and Authority* page 196
[177] Peters *Inquisition* page 64
[178] *Heresy and Authority* pages 194 and 199
[179] James B Given *Inquisition and Medieval Society* (New York, Cornell University Press, 2001) page 69
[180] *Heresy and Authority* page 200
[181] *Heresy and Authority* page 203
[182] Thorndike *History* volume 4, page 68
[183] Lynn Thorndike 'Relations of the Inquisition to Peter of Abano and Cecco D'Ascoli' *Speculum* 1:3 (1926) page 340

inquisitor, Lambert of Cingulum (fl. 1316 – 24) in Bologna, Cecco d'Ascoli was sentenced to a whole litany of penances. He had to give fifteen days of "true and general confession of his sins", recite "thirty Our Fathers and the same number of Hail Marys per day", fast and contemplate the cross and crucifixion for six holidays, attend a sermon each Sunday given either by the Dominicans or Franciscans, suffer confiscation of his astrological books, prohibition against reading or lecturing astrology anywhere, his masters degree was suspended at the inquisitor's pleasure and he was fined seventy lira to be doubled if not paid by Easter.[184] Compared to the two previous examples this was a stiffer penalty which deprived the penitent of his livelihood. Whatever Cecco did, it seems to have been quite serious.

9) Heresy in the Universities

Academic heresy and dissent were not seen as so much of a threat as popular movements of reform, like the Lollards and Waldensians, although if the problem spread beyond the walls of the academy it could be suppressed with great severity. This occurred in the case of the Amalricians in Paris in 1210 when ten people were burnt and a further four imprisoned. The case has been carefully examined by TMMH Thijjsen who has shown how it forms part of the progression to the fully inquisitorial system.[185] For the present, the question of why this particular event led to such brutal consequences concerns us most. The answer appears to be that the heresy had spread from the University of Paris and into the surrounding countryside where it was winning converts. Now, it was no longer a theoretical dispute about obscure doctrine but had spawned the beginnings of a sect. This had to be dealt with by the authorities as it was no longer a cerebral issue but one of practical consequences.

Initially, Amalric, who was a member of the Theology Faculty at the University of Paris, was accused of contrary opinions and appealed to Rome where Innocent III (c. 1160 – 1216) ruled against him.[186] Back in Paris he was required to recant and died shortly afterwards. This appears to be a textbook case of how the disciplinary system was expected to work – an initial hearing at the university, an appeal to higher authority and a recantation being the only punishment for a first offence. It is unclear from the source whether the initial proceedings were instigated by the university but when the case came before the Pope, he heard both Amalric's proposition and the contradiction from the scholars of the university[187]

We can find several more examples of this process in action over the next three centuries even though extraneous factors and lacunae in the sources mean that matters are rarely so simply stated as in the case of Amalric. Giles of Rome (d. 1316) left Paris after he was accused but was eventually allowed to return after the Pope order the university to drop the charges. Neither Blassius of Parma, who we met above, nor Giles, found the affair curtailed their future careers although they had different levels of future success. Blasius eventually retired from teaching due to a lack of students, while Giles ended up as Archbishop of Bruges and took part in a disciplinary panel himself.[188] In his survey of the discipline of university academics, William J Courtenay

[184] See the Appendix to this dissertation
[185] JMMH Thijssen 'Master Amalric and the Amalricians' *Speculum* 71:1 (1996) page 61
[186] Thijssen 'Master Amalric' page 48
[187] *Gesta Philippi II Augusti* quoted in Thijsen 'Master Amalric' page 48 note 17
[188] Courteney 'Inquiry and Inquisition' page 177

refers to there being documentary evidence for over fifty cases, not counting disputes between masters. In the earliest phase, up until the early thirteenth century, he finds the forum within which such cases were considered was the local synod[189] as happened in the case of Amalric, detailed above, and more famously, Peter Abelard. For the rest of the thirteenth century, the universities begin to gain a greater influence and the body of Regent Masters, especially in Paris, were in the driving seat. As shown above, even the condemnations of Tempier and Kilwardby were undertaken in consultation with the Regent Masters. However, after this date the growth of business at the papal curia affected academic discipline like much else, and up until 1342 this was where cases ended up being heard.[190] This was the case with William of Ockham for whom, as we shall see, formal proceedings began before the pope at Avignon. However, after the death of Benedict XII (d. 1342), the Regent Masters regained some of their former jurisdiction.[191]

Courtney also notes that grade of the defendants varied over the period. In the early period, it was recognised Masters of Theology who got into trouble whereas in the thirteenth century it was Masters of the Arts, or more usually, theology students who were the subject of discipline.[192] It appears that there were set times during a theologian's training when their work was subject to a test of orthodoxy, for example when they had completed their commentary on the *Sentences*. There were many cases where the Theology Faculty required certain views to be recanted by its students in what appears to be part of the process by which a doctorate of theology was awarded.[193] Nicholas of Autrecourt, who criticised both Aristotle and Ockham,[194] was one such example from 1346 shortly followed by John of Mirecourt who was discussed above. Members of the Arts Faculty, who had sworn not to deal with strictly theological matters, [195] rarely found themselves subject to such discipline although it could happen. We have seen how Siger of Brabant pushed the boundaries too far for the Bishop of Paris and in December 1247, a Bachelor of the Arts, John of Brescia, and his master, Raymond, appeared before the papal legate and a panel of theologicans. They both refused to renounce their condemned views and so John was kicked out the university and told he could never teach. Raymond, not being a student and hence considered more culpable, suffered imprisonment and excommunication.[196]

The relationship between the different disciplinary authorities, between the university and the inquisitors for instance, was by no means always clear. The extremely strong position of the Paris Theology Faculty meant that it often took the position of a court that could try cases well outside the usual jurisdiction of a university. No such powerful body existed at the Italian universities and the policing of academics was part of the overall responsibility of the local bishop, assisted as necessary by any inquisitor attached to the area. Hence, we saw that Blasius found himself having to recant in front

[189] Courteney 'Inquiry and Inquisition' page 173
[190] Courteney 'Inquiry and Inquisition' page 175
[191] Courteney 'Inquiry and Inquisition' page 177
[192] Courteney 'Inquiry and Inquisition' page 174
[193] Courteney 'Inquiry and Inquisition' page 178
[194] McLaughlin *Intellectual Freedom* page 145; *Chartularium universitatis parisiensis* volume , s1124, page 576
[195] Thorndike *University Records* page 85; *Chartularium universitatis parisiensis* volume 1, s442, page 500
[196] McLaughlin *Intellectual Freedom* page 58; *Chartularium universitatis parisiensis* volume 1, s176, page 576

of the bishop and at Bologna, where the Theology Faculty did not receive its statutes until 1346,[197] Cecco was investigated by an inquisitor. This suggests that within the universities themselves, only Paris had a strong internal anti-heresy function. And in Paris too, one did not even have to be part of the university to be considered fair game. In 1300, Arnald of Villanova was just visiting, officially under the protection of the king, when his book on the anti-Christ attracted the ire of the theologians.[198] He was not the only one to rue a visit to the city. Peter D'Abano, another Italian visitor, mentions in his *Conciliator* how he had had to fight off accusations of heresy which Lynn Thorndike suggests involved the Dominicans in Paris.[199]

There is much less material on heresy from the University of Oxford although it does occasionally appear. We have seen how Robert Kilwardby, in his capacity of visitor to the university, issued a condemnation in 1277 but the university itself did not follow this up. It is not until 1314 that there is a straightforward condemnation from the Oxford Theology Faculty censuring particular ideas, in this case eight articles about the Trinity.[200] There are also no religious matters to be found in the records of the Chancellor's court. The closest we find involves a friar who was taken for task for being rude about philosophy and forced to retract his remarks in his next sermon.[201] Part of the reason for this reticence on the part of the Theology Faculty was that it did not occupy the same dominant position as its equivalent in Paris. Oxford's Arts Faculty was much stronger and more respected, considering itself "the source and origin of the rest" of the university,[202] even insisting on having a veto over any university business.[203] This meant it was able to hold its own against the theologians who may have lacked the confidence to make many sweeping statements.

Oxford's most celebrated heretic was John Wyclif (1324 – 1384) who lectured there up until 1381. He was a Doctor of Theology and so a senior member of the Theology Faculty which was not particularly keen to attack him or his ideas. However, in 1381 the chancellor of the university, William Barton, appointed a commission of twelve theologians who condemned a raft of his ideas. Wyclif appealed to the King but still had to withdraw from Oxford.[204] The following year the matter had become of sufficient national concern for a council at Blackfriars, London, to condemn twenty four conclusions,[205] and the matter of the Lollards ceased simply to be about academic discipline. Wyclif himself remained unmolested until he died but condemnations of his ideas kept coming. In 1412, echoing pronouncements previously made in London, the Oxford Theology Faculty issued a formal denunciation of the Lollards.[206] Like in 1277, it was not the university, but outside authorities that were making the running.

The documents collected in the *Monumentia Academia* for the Rolls Series do not include anything about Oxford's other celebrated disputant – William of Ockham. This

[197] Asztalos 'The Faculty of Theology' page 433
[198] Thorndike *University Records* page 128; *Chartularium universitatis parisiensis* volume 2, s616, page 87
[199] Thorndike *History* volume 2, page 939
[200] *Monumentia Academia* page 100
[201] *Monumentia Academia* page 211
[202] *Monumentia Academia* page 142 "*fons et origo caeteris*"
[203] *Monumentia Academia* page 429
[204] KB McFarlane *John Wycliffe* (London, English Universities Press, 1952) page 84
[205] Anne Hudson *The Premature Reformation* (Oxford, Oxford University Press, 1988) page 69
[206] *Monumentia Academia* page 268

is probably because he was never subject to any sort of official university procedure.[207] The exit of William of Ockham from Oxford before taking his degree has been the subject of much speculation but is best seen in the context of the cases mentioned above. It is known that William had left Oxford in 1321 and that one John of Lutterell (d. 1335) was dismissed from the Chancellor's seat in 1322 whereupon he applied for royal permission to travel to Avignon to prosecute an appeal. However, there is no evidence to connect John's journey to Avignon with William.[208] William himself was eventually summoned by the Pope to answer accusations of heresy and eventually had 51 propositions in his commentary on Peter Lombard's *Sentences* declared false by a committee including John of Lutterell.[209] William departed Avignon for political reasons before this process quite reached a conclusion. It seems most likely that the sequence of events was actually as follows.

Producing a commentary on Peter Lombard's *Sentences* was a standard part of the curriculum and Courtenay has shown that it is the examination of this on the way to the candidate becoming a Master of Theology that most usually leads to the discovery of errors.[210] The errors had to be corrected before the student could progress and we can assume that a charge was laid against William's work. This led to William leaving the university so we can assume that he was unable to defend himself successfully even though the matter was never formally heard. An appeal to the papal curia was an option for him although this often took years and he would not be able to continue his studies at Oxford in the meantime. William lost his appeal and would have been expected to recant his erroneous views if he had not already decamped to the Holy Roman Emperor to take his part in the much more high-stakes contest between Church and Empire.

It was when non-academics tried to get involved in matters that were seen to be above them that problems were more likely. Natural philosophy, theology and medicine were all jealously protected from 'amateurs' by a series of rules that the universities used to try to monopolise intellectual discourse. Unlicensed physicians were banned by various universities, including Oxford in the fourteenth century[211] and Paris in 1271.[212] Other individuals had to avoid stepping on the academics' toes. As mentioned above, Arnald of Villanova found himself before the Paris Theology Faculty to answer charges related to a book on the second coming. It was not so much its contents as the fact that Arnald was not a qualified theologian that worried them – a point he admits in his reply to the charges.[213] The case of Simon de Phares (fl. 1490 – 1498) from the end of the fifteenth century is also illustrative of this.[214] Simon was the proprietor of an up market astrology practice in Lyons that was so successful that even the King himself came to call. This led to friction with the local clergy, who were usually in a state of armed truce with astrologers, so that Simon was hauled before the court of the

[207] William J Courtenay 'The Academic and Intellectual Worlds of Ockham' in *The Cambridge Companion to Ockham* ed. Paul Vincent Spade (Cambridge, Cambridge University Press, 1999) page 24
[208] Courtenay 'The Academic and Intellectual Worlds of Ockham' page 25
[209] Gordon Leff *William of Ockham* (Manchester, Manchester University Press, 1975) page xvi
[210] Courtenay *Inquiry and Inquisition* page 178
[211] *Monumentia Academia* page 263
[212] Thorndike *University Records* page 83; *Chartularium universitatis parisiensis* volume 1, s434, page 488
[213] Thorndike *University Records* page 128; *Chartularium universitatis parisiensis* volume 2, s616, page 488
[214] Thorndike *History* volume 4, page 545

Archbishop. Here, he was probably found to have been using magic, forbidden to practice and had his library confiscated. Simon appealed to the Parlement in Paris rather than to the Pope in order to get his books back and they turned the case over to the Theology Faculty as they probably had no idea what any of the books were about, let alone if they should be condemned. The theologians ruminated for some time before declaring a few of Simon's books were suspect even if the rest were permissible.[215] Simon had his appeal rejected with costs but does not appear to have got into any more serious trouble.[216] In the late fifteenth century, the Cologne Theology Faculty was ordering the local astrologers Hartungus (fl. 1488) and Johann Lichtenberger (fl. 1492) to desist from their practices as they were considered altogether too ignorant to be allowed to study such things. The later was even to be investigated by a local inquisitor.[217]

10) The Case of Cecco D'Ascoli

We have examined the context and background to the case of Cecco D'Ascoli so that we can begin to explain his fate. As a Regent Master of the Arts at the University of Bologna, Cecco lectured students on astronomy using, among other texts, his own *Commentary on the Sphere of Sacrobosco*. In 1324, he was convicted by the local inquisitor, Lambert of Cingulum,[218] who would have been alerted to potential heretical statements of Cecco either by an informant or perhaps by the university. Lambert certainly knew his stuff as eight years previously we find him being paid twelve pounds for giving a season's worth of tuition in moral philosophy (*philosophiam moralem*), probably Aristotle's ethics, to another inquisitor.[219]

However, we have no evidence of any kind of investigation by the university itself and it did not appear to have been engaged in the policing of its masters as far as their orthodoxy was concerned. In this respect, it differed from Paris where the Theology Faculty took a keen interest in such matters. Neither was Cecco tried before the local bishop as we saw with Blassius of Palma since the inquisitor worked in parallel to rather than in combination with the regular ecclesiastical justice machinery. Whereas most trials performed by the inquisition were of lower class heretics, Cecco was an educated professional, like his accuser. Recent work on the inquisition in the Languedoc, most notably Le Roy Ladurie's *Montaillou*, has focused on the ordinariness of defendants before the inquisition, but Cecco's case show they were happy to fry bigger fish too.

Cecco was convicted of utterances against the Catholic faith and we can expect that these took place in the context of his teaching. His written works, while controversial, are careful to toe the line on the question of determinism and stellar influence on the life of Christ. However, we have seen above that it is likely he was less cautious when speaking in class and both Villani and Franciscus Florentinius are in little doubt about the seriousness of his crimes. Cecco's punishment for his original conviction was much

[215] J-P Boudet *Le Recueil des Plus Celebres Astrologues de Simon de Phares* (Paris, 1999) volume 2, page 335
[216] Thorndike *History* volume 4, page 549
[217] Thorndike *History* volume 4, page 545
[218] See the Appendix to this dissertation
[219] Gerolamo Biscano 'Inquisitori ed eretici Lombardi, 1292 – 1318' *Miscellanea di Storia Italiene*, Third Series, 19 (Turin, 1922) pages 445 - 558

more severe that we have seen in most other cases and he must have been aware his was on probation.

According to Villani, the second trial took place when the Chancellor of the Duke of Tuscany, who was also the Franciscan Bishop of Aversa, decided to take action as a result of Cecco's occult activities. After losing his job at the University of Bologna, he had become the Duke of Tuscany's personal astrologer and this was disturbing to a devout Friar Minor. He was arrested by the new local inquisitor, Accursius Bonfantini of Florence,[220] in July 1326 and kept imprisoned for a year. Accursius does not appear to have started his investigation until the next July, when he sent a messenger to Bologna to acquire Cecco's record and also purchased a copy of his *Commentary on the Sphere*. There are no records of depositions or the trial but Cecco was sentenced to be burnt as a relapsed heretic and this sentence was carried out on 16th September, 1327, as Villani reports.[221] The transcript of the condemnation says the sentence was carried out in December but the inquisitor accounts are consistent with Villani against this date.[222] As spelled out in the bull *Ad abolendum*, a second offence was treated much more seriously and here Cecco paid the ultimate price of being burnt at the stake in Florence. Thorndike speculates about personal rivalries having led Cecco to the stake, while Villani's chronicle calls him a "vain man and of worldly life".[223] However, we cannot rely on Villani giving us a fair portrait of a convicted relapsed heretic and, given the clear letter of the law, Thorndike's ruminations about conspiracies are unnecessary as well. Cecco disobeyed the injunction of an inquisitor not to read astrology and that alone can account for him being handed over to the secular arm.

The sheer number of times astrological determinism was condemned shows how seriously it was taken and how prevalent it was. Perhaps it was inevitable that someone would eventually have the book thrown at them, especially if, as we are told of Cecco, they had an abrasive personality. As his condemnation concludes, his very public fate was both a punishment for him and warning to others.

11) Conclusion

The universities of the Middle Ages were a joint venture between secular and ecclesiastical authorities that both were keen to promote and privilege. To a large extent they were allowed to police themselves and the product they produced, educated clerks fit for a wide variety of administrative roles, were highly valued. The foundation of the universities was contemporaneous with the rise of the new learning of the twelfth century and it was inevitable that they would be the centres in which the necessary accommodations with Christian tradition would be worked out. The principle that reason was a valuable and useful ally to faith was accepted by all except the mystical wing of the mendicant orders by 1200. After that, the debate centred around Paris where it was decided that Aristotle and Averröes were the foundation texts to be followed as long as they did not conflict with the faith. Even with this proviso, natural philosophers found themselves with plenty of room for manoeuvre,

[220] Gerolamo Biscaro 'Inquisitori ed Eretici a Firenze, 1319 – 1327' *Studi Medievali*, New Series 6:2 (1933) page 207
[221] Giovanni Villani *Nuovo Cronica* XI, 41 "*era uomo vano e di mondana vita*"
[222] See the Appendix to this dissertation
[223] Giovanni Villani *Nuovo Cronica* XI, 41

especially by using certain formulas that allowed many contrary opinions to be expressed. It might be claimed that preventing natural philosophers from doing theology was an unjustifiable restriction. But the subject matter of theology was considered so important that to insist that it was only practised by those who had received full professional training was no less proper than requiring the same from physicians, as we still do today. It was always open for a natural philosopher to join the higher faculty if that was his vocation (and he could afford the fees).

As well as avoiding theology, natural philosophers needed to steer clear of anything that resembled magic or superstition as these too were strictly forbidden by both Church and state. Unfortunately, no clearly agreed statement that defined magic was ever issued and activities that did not strictly have to be magical, like alchemy and astrology, could find themselves tarred by the same brush. However, while the exact line of the border was unclear nearly everyone was agreed when it had been well and truly crossed.

A Master of the Arts engaged in matters that today would be recognised as scientific could expect to suffer no interference from the Church and would, through his post in a university, probably be a cleric anyway. Natural science was simply not a subject that exercised the fears of doctrinal authorities until after the time of Copernicus. On the other hand, many found the temptation to stray into illicit areas quite irresistible and then, like Cecco D'Ascoli, they could end up in trouble. It is difficult to avoid the conclusion that there was a well demarcated subject of natural philosophy in the Middle Ages, centred around Aristotle and his critics, defined by the Church to exclude theology and magic, and which corresponded surprisingly well, by scope if not in method, with what is understood by the study of nature today. Consequently, there is no evidence to support the views of Andrew Dickson White and others that science in the Middle Ages was held back by the Church. If anything, it was the Church that proclaimed that natural philosophers should actually be doing natural science and not indulging in theology or superstition.

Self regulation was the essence of the university disciplinary system and one of its major aims seems to been to have denied outside authorities any pretext for interference. And when they did get involved, outside authorities, be they the Archbishop of Canterbury or the local inquisitor, could take stronger action than the university might like. As for Cecco himself, he was condemned not for his natural philosophy but for the practice of radical astrology tinged with necromancy. He was executed because he did not give up these things when told to. Thus, the most celebrated and extreme case of Church discipline of a natural philosopher in the Middle Ages tells us very little about the attitude of the Church towards that subject. Rather, it is an example of how seriously the Church took its responsibility to enforce orthodoxy and eliminate dangerous superstition.

The question for future historians of medieval natural science is not how much the Church impeded the subject, but to what extent, by providing a safe harbour and a stable working environment, it was responsible for fostering its 'handmaiden'.

Appendix

The condemnation of Cecco D'Ascoli

Florence, Riccardian Library, 673 (M-I-25), ff 111r - v
Transcribed page 14 of G Boffio 'Perchè fu condannato al fuoco l'astrologo Cecco d'Ascoli?' *Studi e Documenti di Storia e Diritto* 20 (1899)

Latin:
"*De magistro Cecho de Asculo quare combustus sit –*
Reverendus Pater Frater Lambertus de Cingulo Ordinis Praedicatorum Inquisitor haereticae pravitatis Bononiae anno 1324 die XVI decembris Magistrum Cechum filium quondam Magistri Simonis Stabilis de Esculo sententiant male et inordinate locutum fuisee de fide Catholica et propterea eidem poenitentiam imposuit ut inde ad XV dies proximos suorum veram et generalem faceret peccatorum confessionem. Item quod omni die diceret XXX pater noster et totidem Ave Maria. Item quod qualibet sexta feria ieuinare deberet in reverentiam crucis et crucifixi hinc ad annum. Item in omni die dominica audiret sermonen in domo fratrum praedicatorum vel minorum. Item privavit ipsum omnibus libris astrologiae magnis et parvis quos deponeret apud magistrum Albertum bononiensem et voluit quod nunquam possit legere astrologiam Bononiae vel alibi publice vel private. Item privavit eum omni magisterio et honore cuiuslibet doctoratus usque ad suae arbitrium voluntatis. Et condemnavit eum in LXX libris bononiensibus quas inde ad pasca resurrectionis domini proxime solveret sub poeni dupli.
Frater Accursius florentinus Ordinis fratrum minorum inquisitor haereticae pravitatis misso ad se processu die XVII Iulii 1327a fratre Lamberto de Cingulo contra magistrum Cechum de Esculo, citatoque magistro Cecho et praesentae in choro Ecclesiae fratrum minorum de Florentia anno 1327, indictione X, die XV mensis decembris, eum haereticum pronuntiavit eumque reliquit saeculari iudicio requirendum Domino Iacobo de Brescia ducali vicario praesenti et recianimaadversione debita puniendum. Librum quoque eius in Astrologia latine scriptum et quendam alium vulgarem libellum 'Acerba' nomine reprobavit et igni mandari decrevit, omnesque qui tales aut similes eius libros tenerent excommunicvit. Eodem die supradictus vicarius indilate transmittens per militem et familiam suam magistrum Cechum coram populi multitudine cogregata cremari fecit ad poenalem mortem ipsius et exemplum aliorum."

Translation:
'Concerning the reason why Cecco d'Ascoli should be burnt.
The Reverend Father Brother Lambertus de Cingulum of the aforesaid order [Dominicans], inquistor of heretical depravity of Bologna, on 16th December 1324, judged Master Cecco son of the late Master Simon Stabile of Ascoli to have spoken badly and inordinately concerning the Catholic faith and consequently imposed the punishment on the same that he would make true and full confession of his sins within fifteen days. Likewise, that on all days he would say thirty *Our Fathers* and the same number of *Hail Maries*. Likewise, that on whatever six festivals he ought to contemplate the reverence of the cross and crucifixion for one year. Likewise, on Sundays he would hear a sermon at the church of the aforesaid brothers [the Dominicans] or the Friars Minor [Franciscans]. Likewise, he deprived him of all his books on astrology great and small which he would place at the house of Albert of Bologna and he wished that he would never be able to read astrology at Bologna or

elsewhere in public or private. Likewise, he deprived him from all his masters degree and the honour of whatever teaching as long as he wished. And he condemned him to seventy Bologna pounds which he would pay before next Easter or it would be doubled.

Brother Accursius Florentinus of the order of the Friars Minor [Franciscans], inquisitor of heretical depravity, after proceedings against Master Cecco d'Ascoli were sent to him by Brother Lambertus de Cingulum on 17 July 1327, Master Cecco having been summoned and present in the choir of the church of the Friars Minor [Franciscans] in Florence on 15th December, indiction ten, 1327, pronounced him a heretic and handed him over to secular justice, requiring from the present Lord Jacob of Brescia, receiving him as viceroy of the Duke, punishment from the debt of hatred. He condemned his book of astrology written in Latin and a certain other little book in the common language called *Acerba* and decreed then to be handed into the fire, and all who held books such as these or similar he excommunicated. On the same day, the above-mentioned viceroy without delay, acting through his military and civil means, had Cecco burnt before a great crowd of people as his capital punishment and a warning to others.'

Extracts from the Florentine inquisitor's accounts, 1326 - 1327
Vatican Archives, Collectio, 250, ff 97 – 140
Transcribed in Gerolamo Biscaro 'Inquisitori ed eretici a Firenze, 1319 – 1334' *Studi Medievali*, New Series 3, pages 269 – 271

Latin:
"*1326 Iulius: in primis pro prandio quattor familiorum quum captus fuit magister Cecchus de Esculo, et aliis expensis circa id dicta de causa factis 14s 6d*
1327 Iulius: item Donato Puccii nuntio qui ivit Bononiam ad Inquisitorem Lombardie pro sententia et abiuratione et processu per eum facto contra dictum magister Cecchum. 2l 10
item notario Inquisitoris bononientis pro suprascriptis sententia et processu contra supradictum m. Cecchum pro eius remuneratione 1l 11s 8
item ser Micheli Boscho et ser Francisco eius sotio pro exemplatura libri per dictum m. Cecchum conditi super speram. 1l 11s 7d
1327 Augustus item Arrigo de Lucca nuntio pro quadam littera quam portavit Bononiam Inquisitori Lombardie occasione dicti officii. 35s
[Between 11th September and 28th November, 1327]
item pervenit ad dictum officium… de pretio rerum magistri Cecchi de Esculo (heretici combusti) venditarum per dictum officium pro duabus partibus. 8l
item de tertia parte precii quorundam rerum magistri Cecchi de Esculo heretici combusti venditarum per dictum officum. 4l
item dedit et expendit pro expensis factis de mensibus Iulii, augusti et septembris proximorum preteritorum occasione Cecchi de Esculo 5l 17s."

Translation:
"July 1326. in particular, for lunch for four of the household when Master Cecco D'Ascoli was captured, and for other expenses incurred around this concerning the said case. Fourteen solidus, six denerius
July 1327. Item: to Donatus of Puccius, the messenger who went to Bologna to the Inquisitor of Lombardy for the sentence, adjuration and process made against the said Master Cecco by him. Two pounds, ten solidus.
Item: for payment to the secretary of the Inquisitor of Bologna for the above mentioned sentence and process against the above mentioned Cecco. One pound, eleven solidus, seven denerius.
Item: to Signor Michel Boshus and Signor Francisco, his servant, for a copy of the book written by Master Cecco on the sphere. One pound, eleven solidus and eight denerius.
August 1327. Item: to Arrigus of Lucca, a messenger for a certain letter which he carried to Bologna by reason of the said office of Inquisitor of Lombardy.
[Between 11th September and 28th November, 1327]
Item: reached this office…. From the proceeds from two parts of the property of Master Cecco D'Ascoli (a burnt heretic) sold for the said office. Eight pounds.
Item: the third part of the proceeds from certain property of Master Cecco D'Ascoli, a burnt heretic, sold for this office.'
Item: given and paid for expenses incurred in the months of July, August and September just past on the case of Cecco D'Ascoli. Five pounds, seventeen solidus."

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