

Logic and the condemnations of 1277

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Abstract

The struggle to delineate the relationship between theology and logic flourished in the thirteenth century and culminated in two condemnations in early 1277, one in Paris and the other in Oxford. To see how much and what kind of affect ecclesiastical actions such as condemnations and prohibitions to teach had on the development of logic in the Middle Ages, we investigate the events leading up to the 1277 actions, the condemned propositions, and the parts of these condemnations connected to modal and temporal logic specifically. We show that because of the specific motivations late 13th-century and 14th-century logicians had when working in modal and temporal logic, the effect of the 1277 condemnations on the development of those branches was much smaller than might have been supposed.

Keywords: modal logic, temporal logic, Oxford condemnation, Paris condemnation, Robert Kilwardby, Stephen Tempier

1 Preliminary remarks

A 21st-century logician who is interested in the societal factors which affect the development of various branches of logic cannot help but notice that one of the biggest differences between logic as it is currently practiced and logic as it was practiced in the Middle Ages is the role of the Church. Problems in theology have very little influence on modern logic, whereas medieval logicians were often trained theologians and those who were not were still connected to the Church via the Church's role in everyday life and its connections to the university and academic life. As a result, it is natural to ask whether there were specific actions of the Church which altered the development of logic in the Middle Ages. One looking for clear examples of theological issues affecting medieval logic might think he need look no further than condemnations and prohibitions by Church authorities of the teaching and dissemination of certain logical doctrines, for surely the charge of heresy and the threat of excommunication would have had some effect on logicians' choice of theories.

In this paper we look at various 13th-century condemnations propounded at the universities of Paris and Oxford, focusing on the largest and perhaps most well known, that of Stephen Tempier, bishop of Paris, in 1277, with additional attention to that of Robert Kilwardby, archbishop of Canterbury, also in 1277. Since their 700th anniversary in 1977, these condemnations have received extensive attention from historians and scholars of medieval philosophy, but with a few exceptions, these historians have focused primarily on the parts of the condemnations that connect to natural philosophy and to science.¹

We are interested here in the condemnations with respect to their connections to logic and dialectic. We begin by locating the historical facts of these condemnations, and provide some overview of previous literature discussing the condemnations. Next we turn to a discussion of events leading up to the condemnations, as well as of the general intellectual and academic features which played a role in these events. We then look at the condemned propositions themselves, focusing on those which treat with specifically logical matters, the role of logic or philosophy in theological reasoning, or the nature and structure of time. After discussing these propositions of logical interest, we briefly survey the documented effects of the condemnations, and finally, draw conclusions about how these condemnations affected and guided the development of logic, with special attention to the development of modal and temporal logic, in the end of the thirteenth century and into fourteenth century.

We begin with an introduction to the condemnations themselves. The propositions which were condemned and that they were condemned are perhaps the only clear facts of the situation. Less clear are the motives of their condemners, Stephen Tempier, Bishop of Paris, and Robert Kilwardby, Archbishops of Canterbury (did he undertake the condemnation on his own? Was he acting on a papal mandate?), who was targeted by the condemnation (was anyone? Was it just scholars in the Arts Faculty at Paris? Was it Aquinas?), and what effect the condemnation had in the following centuries (was there any? Did this signal the strength of the stranglehold of the Church upon science? Was this the birth of modern science?). Many of these questions simply cannot be answered given the available evidence. But in order to discuss the impact that this condemnation had on the development of logic, in the next section we briefly consider some of these questions and the arguments in support of different answers.

1.1 The condemnation in Paris

On 7 March 1277, the third anniversary of the death of St. Thomas Aquinas, Stephen Tempier, bishop of Paris, issued the condemnation of 219 errors of theology, natural philosophy, and logic.² In addition to the 219 propositions,

¹For example, Murdoch in [Mu98] says explicitly that he addresses the effects of the condemnations only with regard to natural philosophy, and not theology or philosophy in general (p. 111). Perhaps the most well-known modern comment on the condemnations is the claim by Pierre Duhem that Tempier's censure gave birth to modern science. See [Du06–13] and [Du13–59]; and [Mu91] for further discussion. Others, on the other hand, argue that, e.g. “the effects of the condemnation of 1277 were narrow and largely ignored” [Go06, p. 43]. See also [Gr79] and [Gr96].

²The condemnations are printed in [CUP, I, pp. 543–61]. The propositions were reprinted in a different order in [Man08], and the first serious extensive systematic historical and doctrinal study of the articles is [Hi77].

Tempier also condemned two specific texts, *De amore* or *De deo armoris*³ and a book of geomancy with the incipit *Existimaverunt Indi*, and any tract dealing with necromancy, invocations of the devil, incantations which may endanger lives, or fortune telling. Anyone teaching, defending, upholding, or even listening to any of these propositions who did not turn themselves in to ecclesiastical authority within seven days faced excommunication and any other punishment as required by the nature of the offense [FoO’N, p. 337].

We start our discussion of the condemnation by presenting the standard view of the events leading up to Tempier’s 7 March condemnation. On 18 January 1277, Pope John XXI⁴ wrote to Tempier saying that he had heard rumors of errors circulating within Paris, and charging him with investigating these rumors and reporting on them to him:

Episcopo Parisiensi. *Relatio nimis implacida nostrum nuper turbavit auditum, amaricavit et animum, quod Parisiis, ubi fons vivus sapientie salutaris abundanter hucusque scaturit, suos rivos limpidissimos, fidem patefacientes catholicam usque ad terminos orbis terrae diffundens, quidam errores in prejudicium ejusdem fidei de novo pullulasse dicuntur. Volumus itaque tibi auctoritate presentium districte precipiendo mandamus, quatinus diligenter facias inspici, vel inquiri a quibus personis et in quibus locis errores hujusmodi dicti sunt sive scripti, et que didiceris sive inveneris, conscripta fideliter, nobis per tuum nuntium transmittere quam citius non omittas. —*
Dat. Viterbii, xv kalendas februarii, anno primo [Cad92, p. 51].⁵

The traditional view is that this letter was the instigation for Tempier’s condemnation.⁶ Assuming that the letter took a month to travel from Viterbo to Paris⁷, this means that Bishop Tempier created his list of erroneous propositions and suspect texts in just over two weeks, and issued his condemnation without waiting for the list to be ratified by the pope.⁸ This short interval, and the impetuosity it implies on Tempier’s part, are cited as explanations for the evident lack of systematicity and the seeming haphazardness in the construction of the

³[Bia98, p. 91], [Thi03, §3], and [Wip03, p. 65] identify the author of this text as Andreas Cappellanus or Capellanus.

⁴This pope is the one originally known as *Petrus Hispanus*, and is perhaps identical with the Petrus Hispanus Portugalensis who was the author of a *Summula Logicales*.

⁵“*To the bishop of Paris. An exceedingly worrisome relation has recently disturbed our hearing and excited our mind, that in Paris, where hitherto the living font of salutary wisdom has been lavishly spreading its most clear streams showing the Catholic faith all the way to the ends of the earth, certain errors in judgment of that very faith are said to have sprung forth anew. And so we desire you, being strictly instructed by the authority of these presents, and we command that you should diligently cause to be inspected or inquired by which people and in which places the errors of this kind are spoken or written, and whatever you may hear about or find, you should not omit to faithfully write them down, to be transmitted to us through your messenger as quickly as possible. — dated by Viterbo, 18 January, in the first year.*”

⁶[Cal55, p. 11]; [Gr96, p. 71]; [Kno42, p. 184]; [Thi97a, p. 92]; [Wip95b, §4].

⁷Thijssen in [Thi97a, p. 93, fn. 29] says that “According to Robert Wielockx in *Aegidii Romani Opera Omnia*, vol. 3, pt. 1, *Apologia*. . . correspondence from the papal court to Paris took about a month to arrive.”

⁸Note that in most cases, this would not be remarkable; Thijssen in [Thi98] indicates that many cases of censure, especially in the 13th century, only reached the pope on appeal. However, if the traditional view is correct, that the condemnation was triggered by the papal letter, this fact is remarkable given the request of Pope John that Tempier send him a list of the problematic theses.

list, and the facts that certain of them appear to be condemning positions of orthodoxy, that apparently contradictory propositions appear in the list, and that the authors of these erroneous propositions are not named.⁹

In drawing up his list of erroneous propositions, Bishop Tempier sought the advice of sixteen masters of theology, including Henry of Ghent (d. 1293), whom he first met in 1276. The identity of the other fifteen masters is not known, though it is likely that they include John of Alleux, university chancellor; Simon of Brion, papal legate; and Ranulphe of Houblonnière, Tempier’s successor as bishop.¹⁰ In the introduction to the list of condemned propositions, Tempier says:

*Magnarum et gravium personarum crebra zeloque fidei accesna insinuavit relatio, quod nonnulli Parisius studentes in artibus proprie facultatis limites excedentes quosdam manifestos et execrabiles errores. . . in rotulo seu cedula presentibus hiis annexo seu annexis contento.*¹¹

There are two things of note in this selection of Tempier’s introduction. The first is that the perpetrators of the errors are members (not even specifically masters) of the Arts Faculty, and that they are described as “exceeding the boundaries of their own faculty”. This is a reference to the voluntary oath of 1272 which we will discuss in §2.3, which forbade members of the Arts Faculty from pursuing theological questions. As we’ll also see in §2.3, the 1277 condemnation was not the only act of censure issued at or applying to the University of Paris in the thirteenth century. In comparison to the other lists of censured propositions, the fact that Tempier’s was sponsored by a bishop, directed at the Faculty of Arts, and anonymous (in that only the propagators of the errors, not their originators, were named) makes it unique.¹²

The second item of note is that there is no mention at all of any papal injunction underpinning this action. One would think that if Tempier was acting specifically on papal command, that rather than referring to “reports” from “important and serious persons”, he would refer to the command received from Pope John in the 18 January letter quoted above. As Thijssen notes, if Tempier’s actions were triggered by the 18 January papal letter, “it is surprising that he does not mention it in the introduction” [Thi03, §1]. He argues that “the evidence suggests that Tempier acted independently from the pope and that when he received the papal letter of 18 January 1277 he was already in the process of preparing his condemnation” [Thi97a, p. 92]. Further evidence that Tempier’s action was not caused by the first papal letter can be found in the existence of a second letter from the Pope to Tempier, dated 28 April 1277, which “gives no indication whatsoever that the pope knew about Tempier’s action” and where the pope asks Tempier “to inform him about the names of the propagators” of errors both in the Faculty of Arts and in the Faculty of

⁹See, e.g., [Wip77].

¹⁰[EmSp, p. 3]; [FoO’N, p. 355]; [Thi97a, p. 103]; [Wip95a, p. 237]. Tempier himself had been a member of the Theology Faculty before he became Bishop of Paris.

¹¹“We have received frequent reports, inspired by zeal for the faith, on the part of important and serious persons to the effect that some students of the arts in Paris are exceeding the boundaries of their own faculty and are presuming to treat and discuss, as if they were debatable in the schools, certain obvious and loathsome errors. . . which are contained in the roll joined to this letter” [FoO’N, p. 337].

¹²[Thi97a, p. 87]; [Thi03, §4].

Philosophy.¹³ If this is the case, as seems likely given Thijssen’s arguments, then this claim of Wilshire’s seems unwarranted:

in a second letter, dated April 28, 1277, and after the condemnations themselves, Pope John XXI commended the 1277 Paris Condemnations as dealing with the Arts Faculty and asked, upon explicit instructions, that a further inquiry be made into suspect theologians [Wil97, p. 153].

If the cause for Tempier’s actions is not to be rooted in papal mandate, where can it be found? Thijssen argues that the roots of the 1277 condemnation can be traced back to 23 November 1276: “On that date Simon du Val, the Inquisitor of France, cited Siger of Brabant together with Bernier of Nivelles and Goswin of Chapelle to appear before this court” [Thi97a, p. 94]. Thijssen argues that the results of the inquisition against Siger are part of the information received from important people (*magnarum et gravium personarum*) which Tempier refers to in his introduction. In sum, “the picture of Tempier as an overzealous bishop is simply untrue. More likely, Tempier was disturbed by the charges that were raised against Siger of Brabant’s teaching toward the end of 1276. Probably, the bishop used the dossier collected against Siger and the other two masters in drawing up the censure of 1277” [Thi97a, p. 105].

Even though the sources of the errors are not generally explicitly named in the condemnation, the standard view is that the condemnations were directed against Thomas Aquinas, Siger of Brabant, and Boëthius of Dacia (like Siger a member of the Faculty of Arts).¹⁴ However, contra, Wippel notes that “efforts to find these explicit doctrines in the writings of Siger or of other members of the Arts Faculty prior to the date of the decree’s issuance have not, to our knowledge, met with success” [Wip77, p. 180], Thijssen in [Thi97b] disagrees that Aquinas was a target for Tempier’s condemnation, and Normore casts the condemnations as just one more cycle in an on-going struggle between what he terms the Philoponeans and the Simplicians.¹⁵ We do not attempt to offer any further arguments in settling these questions here.

1.2 The prohibition in Oxford

Eleven days after Tempier’s condemnation in Paris, on 18 March 1277, Robert Kilwardby, archbishop of Canterbury, was on a pastoral visit to the university of Oxford in his capacity as patron of Merton College. During his visit, Kilwardby, who by this time had been a teacher in the Theology Faculty at Oxford for over twenty years¹⁶, issued his own list of erroneous propositions. These propositions

¹³[Thi97a, p. 93]. See also [Wip77, p. 186–87].

¹⁴See discussions in, e.g., [Eb98], [Wip77], [Wip95a], and [Wip95b, p. 25]. The standard source on Siger’s life and works is [Man08]. For information on Boëthius’s life and works, see [Wip77, fn. 63] and [Wil97, p. 158]. [dM06, fn. 2] notes that two MSs of the condemnation, Paris, Bibl. nat. de France, lat. 4391 and lat. 16533, carry marginalia identifying “the heretic Siger and Boethius” in one case and “a clerk named Boethius”. However, these MSs are noted as being among the more unreliable ones.

¹⁵“The leading idea I want to introduce is that the Oxford and Paris Condemnations should be understood as another round in a debate between philosophy and Christian theology which had begun in late antiquity, was carried on vigorously in the Islamic world and was being replayed with several new elements in Latin in the thirteenth century” [No95, p. 95].

¹⁶[Sh34, p. 306]; [GILiWa05].

were thirty in number: four concerning grammar, ten concerning logic, and sixteen concerning natural philosophy [Lef68, p. 291]. Kilwardby's motives and the relationship between his acts and those of Tempier raise many interesting questions. It is variously argued that Kilwardby's issue was a reaction to Tempier's condemnation; that it was in collusion with Tempier's; that it, like Tempier's, was triggered by a papal letter¹⁷; and that in any case, Kilwardby was acting, as Tempier was, to "check the rapid departure from Augustinianism. . . [and] to ensure that every doctrine taken over from Aristotle and the Arabians should be capable of reconciliation with Augustine and with Christian thought in general" [Sh34, p. 306]. We have seen above that there is reason to doubt that Tempier's actions were the result of the papal letter of January 1277. If, as Thijssen suggests, Tempier's condemnation was a natural outgrowth of his investigations into Siger of Brabant in late 1276, then it seems less plausible that Kilwardby was acting in collusion with Tempier, since there is no reason that Oxford would be connected to the investigation of Siger's views. If we accept that the papal bull was not the cause of the 7 March condemnation, then we have little need to postulate a similar bull as being the cause of the 18 March condemnation. Given that "no document has ever been found instructing Kilwardby to inquire into errors at Oxford" [Wil97, p. 164]¹⁸, postulating the existence of such a cause seems unjustified. Further, as Lewry says, "if [Tempier and Kilwardby] acted in concert. . . there is little in the Oxford theses to match those condemned at Paris" [Lew81, p. 235].

It is also often argued that the Oxford condemnation, like the Paris one, was directed specifically against Thomas Aquinas.¹⁹ Knowles argues that the activities of one Richard Knapwell, a vocal supporter of Thomistic ideas, "had very possibly provided the immediate material for Kilwardby's interference in 1277; it is almost certain that his somewhat noisy propaganda on behalf of Thomism brought about Pecham's action in 1284, for in that year Knapwell incepted as regent master" [Kno42, p. 186].²⁰ We discuss Pecham's actions further in §4.

The questions of whether the Oxford condemnation was in reaction to the Paris one, and whether Aquinas was a specific focus in either condemnation do not interest us here, because their answers have little bearing on the effect these condemnations had on logic. However, because they are so widely discussed,

¹⁷"[I]t is likely that events in Paris precipitated Kilwardby's action" [Cat84, p. 499]; "In this light, Archbishop Kilwardby's action at Oxford in 1277 could well be seen as a prudential procedure inspired by the recent measures taken at Paris" [Ir01, p. 261]; "Ten days after Tempier's decree, and almost certainly through collusive action—perhaps also in response to a monition from Rome—Archbishop Kilwardby. . . 'visited' the University of Oxford" [Kno42, p. 184]; "Kilwardby's condemnations were in fact a backwash from the philosophical controversies which had their storm-centre in this period in the faculty of arts at Paris" [La84, p. 116]; "Kilwardby's condemnations of 1277 at Oxford were largely a reflex action of those ten days earlier at Paris. . . [Kilwardby's] condemnation of 1277 took place on March 18, ten days after that of Etienne Tempier's at Paris. It can therefore be regarded principally as a response to events outside Oxford" [Lef68, pp. 272, 291]; we should see the "Oxford Condemnations as a hastily drawn addendum to the Paris Condemnations" [Wil97, p. 164].

¹⁸See also [Wil93, p. 114].

¹⁹See, e.g., [Cr50], [Cal55], [Wip77]; but contra, [Sh34], [Wil74], [Wil93, p. 113].

²⁰Knapwell, an Oxford member of the Dominican Order, was a vocal proponent of Aquinas's views; his "attempts to bring reconciliation between the pluralist and unitarian standpoints backfired, thus provoking an unfavourable reaction on the part of the authorities" [Ir01, p. 290], and in 1286 he was excommunicated. For a detailed discussion of Knapwell, see [Ir01], specifically §§4.2, 4.3. Sharp in [Sh34, p. 306] calls Knapwell "Clapwell".

especially the latter, it is important that we at least mention them.

Kilwardby’s list of erroneous propositions differs from Tempier’s in two important respects. It is manifest from Tempier’s introduction that his intent was to publish a list of heretical propositions, adherence to which could result in excommunication (see §1.1). On the other hand, not too long after *his* prohibition, Kilwardby wrote to Peter of Conflans, Dominican archbishop of Corinth then acting as papal envoy to the French court in Paris²¹, explaining that the intent behind his list of propositions was not “to stigmatize them as heretical, but simply to prohibit them from being taught, upheld and defined publicly in the schools” [Cal55, p. 13].²² As further evidence that he did not intend his prohibition to be taken as a condemnation of heresy, he cites the penalties for propagating the erroneous theses. The penalty in Paris was excommunication, whereas the penalties in Oxford were merely temporal: Masters were to be deprived of their chairs and bachelors were not to be promoted to the mastership and were to be expelled.²³

The second point of departure is that Kilwardby was acting with the full faith and agreement of all the masters at Oxford, both regent and non-regent, both theologians and philosophers.²⁴ This is in contrast to Tempier, whose condemnation was made with only the advice of doctors of theology (see §1.1).

2 Historical background

Before we turn to a discussion of the propositions themselves, we will first sketch, from a primarily logical point of view, the historical events which culminated in the 1277 condemnations. We do so in order to have a framework for discussing the effect of the condemnations on subsequent work.

2.1 The *logica vetus* and the *logica nova*

Until the first third of the 12th century, the only works of Aristotle that were available in the Latin west were translations of the *Categoriae* and *De interpretatione* made by Boëthius in the early 6th century. Boëthius had also translated the *Analytica Priora*, the *Topica*, and the *Sophistici Elenchi*, but these translations were lost and not rediscovered until the 1120s [Dod82, p. 46]. The *Cate-*

²¹[Kno42, p. 184]; [Wil93, p. 114].

²²See also [GILiWa05]. Kilwardby was writing in response to a letter of Conflans’s denouncing his actions as unduly harsh. Conflans’s letter is no longer extant, but Kilwardby’s response, which is a point by point reply to issues raised by Conflans, has been edited in [Eh89] and in [Bir22]. This point is reiterated by Wilshire when he notes that “we have seen in his letter to Peter of Conflans how Kilwardby stated that he had framed his statements as propositions rather than as condemnations and had repudiated categorically that he had condemned any thesis. He had instead issued a mere prohibition to teach, or to maintain certain tenets with ‘pertinacity’ in the schools” [Wil97, p. 174].

²³ [Cal55, p. 13]; Bianchi in [Bia98, pp. 93–94] argues that since Kilwardby’s intent was to discourage the teaching of said propositions, and not to condemn them as heretical, that it’s “highly likely” (p. 93) that this was Tempier’s motive too—after all, “Tempier did not condemn the articles themselves, but their teaching” (p. 94). He says that this “explains (although it does not justify) the prohibition of perfectly orthodox articles, or of articles completely unrelated to the Christian faith—a fact that has perplexed historians and which indeed, would be hardly understandable in a true doctrinal condemnation” [Bia98, p. 95]. Given the Tempier’s introduction to his list, Bianchi’s conclusions do not seem reasonable.

²⁴[Cr50, p. 248]; [Cal55, p. 13]; [Cou87, p. 179]; [Wil97, p. 154].

goriae and *De interpretatione*, along with Boëthius’s translation of Porphyry’s *Isagoge*, formed the *logica vetus*, the ‘old logic’, and served as the standard textbooks for the teaching of logic in the *trivium*.²⁵ In addition to the rediscovery of the lost translations of Boëthius in the 1120s, in the first half of the 12th century new Latin translations of otherwise unknown works by Aristotle were made and disseminated throughout the Latin west, along with works by Arabic and other Greek writers. Earliest on the scene of translation was James of Venice, who between 1125 and 1150 completed the Aristotelian logical corpus by translating the *Analytica Posteriora*. He also produced a new translation of the *Sophistici Elenchi*, as well as translations of the non-logical *De anima* and *De morte* [Dod82, pp. 74–79]. The second half of the twelfth century saw continued and sustained translation activity, with the result that, by the beginning of the thirteenth century, a wealth of new secular material, both original texts and commentaries on those texts, was available to Latin scholars. This translation work reached its peak in William of Moerbeke, who in the third quarter of the thirteenth century translated anew and revised the complete Aristotelian corpus, including two texts which had not previously been available, the *Politica* and the *Poetica* [Dod82, p. 49].

These new Aristotelian texts in logic, the *Analytica Priora et Posteriora*, the *Topica*, and the *Sophistici Elenchi*, make up the *logica nova* or the ‘new logic’. The sudden influx of new treatises on logic engendered a corresponding growth in the range and application of logic—logic as presented in these treatises wasn’t just new applications of old methods, but rather wholly new logic, ripe for applications to previously unconsidered problems.

But this new material was not embraced with universal enthusiasm. Different people with different agenda quite naturally reacted in different ways. The influx of the new translations into the Latin west over the course of the 12th century upset the tenuous balance between philosophy and theology which had been in place ever since the early church fathers had “grudgingly [come] to tolerate [pagan philosophy and science] as handmaidens to theology” [Gr79, p. 211]. When Pope Gregory IX in 1228 required that members of the Faculty of Theology abstain from Aristotle’s natural philosophy, he was seeking “to preserve the traditional relationship between theology and philosophy, with the latter serving as handmaiden to the former” [Gr96, p. 73]. It was difficult to relegate the new Aristotelian logic and philosophy to the position of mere handmaiden, “as abortive attempts to ban and then expurgate the texts of Aristotle in the first half of the thirteenth century at Paris bear witness” [Gr79, p. 211]. We will see more of these bans and attempted expurgations in §2.3. But in order to understand how they arose, and why the new Aristotelian worldview was embraced with such varying degrees of readiness by different groups, we look next to the structure of the universities of Paris and Oxford.

2.2 The structure of a university

The organization of and the relationships between the faculties at the universities of Paris and Oxford deeply affected the reception of the new Aristotelian

²⁵A manuscript written between 1230 and 1240 containing a manual for students of the Arts Faculty in Paris gives the following text books for the *trivium*: Priscian and Donatus (for grammar); Cicero’s *De inventione* (for rhetoric); and Aristotle’s *Organon*, Porphyry’s *Isagoge*, and Boëthius’s logical treatises (for dialectic, that is, logic) [Lo82, p. 85].

material in the thirteenth century. In order to understand these effects, we must first understand the structure, and some of the history, of the universities. We give here but a sketch, as a complete picture is worth many books.²⁶

The universities of both Paris and Oxford have their roots in the early thirteenth century.²⁷ This is not to say that there were no centers for learning in either place previous to the thirteenth century; this is manifestly not the case. The university of Paris grew out of the cathedral schools of St. Geneviève, St. Victor, and Notre Dame. As such, it fell directly under the auspices of the bishop of Paris. As a result, the university of Paris was more closely entangled with ecclesiastical matters than Oxford.

Oxford had its connections with the Church,²⁸ but they were in many cases more subdued. While Oxford was the home of the monastery of St. Frideswide, founded in 1121 [Lef68, p. 77], there is no evidence that the university was connected with the monastery in any fashion²⁹, or even that it was connected with any monastic or cathedral school. And while it also fell under the supervision of a bishop, this bishop was the bishop of Lincoln [Lef68, p. 15], and Lincoln is nearly 225km from Oxford. By virtue of distance, the bishop of Lincoln simply couldn't be as involved in Oxford's university doings as the bishop of Paris could be in Paris's. Once the episcopal cathedral for the diocese was moved from Dorchester to Lincoln in the late 11th century by Bishop Remigius, the Bishop's primary residence was in Lincoln but he "moved perpetually through his diocese, from one to another of his estates, or to London to his residence in the Old Temple" [Ow71, p. 20]. But this is not to say that the Bishops wasn't involved with the university: In the early part of the 13th century the university was "for a time... entirely under the control of the Bishop of Lincoln", but "so long as the see of Lincoln was filled by Robert Grosseteste... almost unbroken harmony prevailed between the university and the diocesan" [Ra36-, pp. 114, 115]. (Grosseteste was Bishop of Lincoln from 1235 to 1253.)

Both universities were organized into four different Faculties: Arts, Theology, Law, and Medicine.³⁰ In theory, all students started off under the auspices of the Arts Faculty, where they studied the *trivium* (see §2.1), which formed the basis of a liberal arts education. Once a student has become a bachelor in the Arts Faculty, he could continue towards a doctorate in any of the four faculties. This means that many members of the Theology Faculty, both students and teachers, had close connections with the Arts Faculty. On the other hand, not all of the teachers in the theology went first through a university course in arts: Theologians trained at one of the local cathedral schools (which remained in place even after the university was well established) could be appointed to

²⁶See, e.g., [Cou87], [Lef68], [Ra36-, vols. 1, 3].

²⁷Paris is generally accepted to be the earlier of the two universities, but an interesting claim that Oxford is older than Paris is found in a letter in Richard de Bury's Letter Book ("This *Liber Epistolaris*... is a collection of upwards of 1500 documents, comprising mostly copies of letters and other public documents from various sovereigns, popes, and other important persons. They range in date from the twelfth century to 1324", according to [Ha41, p. 284, fn. 5].). The letter is addressed to the pope and "urges by way of argument that since England was the *fons et origo* of the French universities, it is fitting that Oxford be given the same privileges as those enjoyed by the French universities" [Ha41, p. 285].

²⁸As Lyte says, "The University of Oxford [was] scarcely less ecclesiastical in character than that of Paris" [Ly86, p. 8].

²⁹That is, until 1525 when the archbishop of York suppressed the abbey and founded Cardinal College, the predecessor of Christchurch, on its grounds. See [Ki62].

³⁰[Ly86, p. 54]; [Ra36-, pp. 321-3].

teaching positions within the university’s Theology Faculty.³¹ Naturally, such appointments were not wholly welcomed by the Arts Faculty, because ecclesiastical funding for teaching chairs in the Theology Faculty put the Arts Faculty at a disadvantage when it came to attracting qualified teachers, but also that the role that liberal arts and the Arts Faculty played in the academic career of both students and teachers was diminished. It is somewhat ironic that one result of this emphasis on the liberal arts was the eventual lowering of their status. As Lyte points out, “the [Arts] Masters of 1253, in their very anxiety to do honour to the liberal arts, unwittingly caused them to be regarded as mere preliminary studies for men aiming at higher knowledge. The Faculties of Theology, Law, and Medicine, soon took rank above the Faculty of Arts, and the teachers of these superior Faculties came to be styled Doctors, in contradistinction to the Masters of Arts” [Ly86, p. 54].

There were two main tensions affecting the Arts and Theology Faculties at both universities.³² The first was within the Theology Faculty. The thirteenth century saw the rise of the mendicant orders (the Dominicans and Franciscans³³), of which many masters and doctors in the Theology Faculty were members, and consequently the rise of controversies between the orders.³⁴ The second tension was between the faculties. On the one hand, members of both faculties were at least nominally working within the constraints of Catholic orthodoxy. On the other hand, solving and clarifying doctrinal problems was not the purpose of the Arts Faculty. Because their subject matter was temporal, rather than eternal, members of the Arts Faculty often didn’t concern themselves with the eternal consequences of their temporal subjects that the Theology Faculty was quick to see. This was seen most clearly in the introduction of the Aristotelian metaphysics. The Arts Faculty were interested in this new knowledge for its own sake, with blithe unconcern for the implications it may have for theological issues. Naturally, the same could not be said of the Theology Faculty. This tension between the theologian’s approach to doctrinal issues and the philosopher’s approach played a significant role in the various restrictions put on the two faculties in the thirteenth century, which we discuss further in the next section.

2.3 Previous condemnations and strictures

The time from the introduction of the new Aristotelian material into the university curricula to the first condemnation of Aristotelian theses by the Church was brief. All of *De generatione et corruptione*, *De sensu*, *De caelo*, *Physica*, and

³¹See [Ve92, p. 160]; [Ly86, p. 52] discusses the case of Thomas of York, who in 1253 “came forward to claim a theological degree” which would allow him to teach in the Theology Faculty (a position he was well qualified for), even though he had never taken an arts degree. In light of the fact that a similar situation at Paris had resulted in the Dominicans having a perpetual right to one of the public chairs in the Theological Faculty, the decision of the Chancellor, Masters, and chief Bachelors (reached after three meetings), was that an exception would be granted for Thomas of York, but that after that, no one would be allowed to teach in one of the higher faculties unless he had already received a master of arts from some university.

³²That is, tensions within the university; we do not consider here tensions between the university and its surrounding town.

³³See [Be37] and [Moo68].

³⁴One such controversy, both within and between the orders, was the question of poverty. This question was still being debated in the middle of the 14th century. See, e.g., [Kil90, pp. xxxi–xxxiv].

books I–IV of the *Meteorologica* were translated by the end of the 12th century [Dod82, p. 47], and in 1210 the provincial synod of Sens, headed by Archbishop Peter of Corbeil and which included the bishop of Paris, proclaimed that “*nec libri Aristotelis de naturali philosophia nec commenta legantur Parisius publice vel secreto, et hoc sub penae xcommunicationis [sic] inhibemus*” [CUP, I, p. 70].³⁵ This prohibition applied only in Paris and only to the Arts Faculty [Wip95a, p. 233]. According to Wippel, Grabmann “suggested that the Faculty of Theology may have been consulted and had some influence in the measures taken in 1210 and 1215” [Wip77, p. 173]. Whether this is the case or not, the fact that the prohibition did not extend to the Faculty of Theology meant that the theologians were free to continue reading and teaching Aristotle (though while the former happened, the latter never occurred much in the Theology Faculty); this changed in 1228, when Pope Gregory IX “ordered the theological masters at Paris to exclude natural philosophy from their theology” [Gr96, p. 73].

The 1210 prohibition of Sens was reaffirmed, by the papal legate Cardinal Robert of Courçon, in 1215 specifically for the University of Paris, and in 1245 Pope Innocent IV extended the ban to cover the University of Toulouse.³⁶ However, while the prohibition of Sens persisted for another forty years [Gr96, p. 71], it grew steadily weaker, such that already by the 1230s it must hardly have had much affect. It was during this time that the English scholars Robert Grosseteste and Roger Bacon were studying at Paris; were the prohibition against Aristotle still strongly in force, they would likely have remained in Oxford, where no such prohibition existed.³⁷ It is clear that a blanket prohibition of Aristotle would not have been followed. But from an early date, it was also understood that such a prohibition might not be necessary. On 23 April 1231, Pope Gregory IX wrote to Master W. (that is, William of Auxerre), archdeacon of Beauvais; Simon of Alteis, canon of Amiens; and Stephen of Provins, canon of Reims, saying that as he had learned that

libri naturalium, qui Parisius in Concilio provinciali fuere prohibiti, quedam utilia et inutilia continere dicantur, ne utile per inutile vitietur, discretioni vestre, de qua plenam in Domino fiduciam obtinemus, per apostolica scripta sub obtestatione divini iudicii firmiter precipiendo mandamus, quatinus libros ipsos examinantes sicut convenit subtiliter et prudenter, que ibi erronea seu scandali vel offenculi legentibus inveneritis illativa, penitus resecetis ut que sunt suspecta remotis incunctanter ac inoffense in reliquis studeatur [CUP, I, pp. 143–144].³⁸

Ultimately, nothing came of this charge; the proceedings of the three masters

³⁵“Neither the books of Aristotle on natural philosophy nor their commentaries are to be read at Paris in public or in secret, and this we forbid under penalty of excommunication” [Tho44, p. 26].

³⁶[Gr96, p. 70]; [Wip03, p. 66].

³⁷[Gr74, p. 42]; [Gr96, p. 71]; [Wip77, p. 173]; [Wip95a, p. 234].

³⁸“The books on nature which were prohibited at Paris in provincial council are said to contain both useful and useless matter, lest the useful be vitiated by the useless, we command to your discretion, in which we have full faith in the Lord, firmly bidding by apostolic writings under solemn adjuration of divine judgment, 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 offense to readers, so that, what are suspect being removed, the rest may be studied without delay and without offense” [Tho44, pp. 39–40].

were presumably halted by the death of William of Auxerre in 1231, and never taken back up [Gr74, p. 43]. But even without the help of an expurgation, the corpus of Aristotelian natural philosophy continued to infiltrate the university of Paris; we see evidence of this in the Statutes of 1255, where the *Physics*, *Metaphysics*, *De animalibus*, *De celo et mundo*, *De anima*, the *Meteorology*, and others were all included in a teaching schedule distributed throughout the Arts Faculty, indicating by which feast days lectures on which books should be concluded; this mean that all the known works of Aristotle were listed as required reading for members of the Arts Faculty.³⁹

Signs that the academic tensions in Paris were coming closer to a breaking point can be seen clearly from 1270 on. In that year, Giles of Lessines, a young Dominican, sent to Albert the Great a list of fifteen propositions that “were being taught in the schools of Paris by men of reputation in philosophy” [Cou94, p. 191].⁴⁰ Tempier wielded his episcopal power, in a shadow of what was to come nearly twenty-fold seven years later, by condemning thirteen of these theses and excommunicating anyone who “shall have taught or asserted them knowingly.”⁴¹ The content of these theses will be discussed briefly in §3.

The next event of interest, as we trace the history leading up to the 1277 condemnations, was not itself a condemnation. On 1 April 1272, the “masters of logical science or professors of natural science at Paris, each and all” all “spontaneously agreed” [Tho44, p. 85] that

nullus magister vel bachellarius nostre facultatis aliquam questionem pure theologicam, utpote de Trinitate et Incarnatione sicque de consimilibus omnibus, determinare seu etiam disputare presumat, tanquam sibi determinatos limites transgrediens. . . Superaddentes iterum quod si magister vel bachellarius aliquis nostre facultatis passus aliquos difficiles vel aliquas questiones legat vel disputeet, que fidem videantur dissolvere, aliquatenus videatur; rationes autem seu textum, si que contra fidem, dissolvat vel etiam falsas simpliciter et erroneas totaliter esse concedat [CUP, I, p. 499].⁴²

Though this oath remained in effect until the fifteenth century [Gr96, p. 76], one cannot help but wonder, when reading these strong, definitive terms, just how spontaneous the agreement was. Were the threat of retaliation from Church authorities not already hanging over the Arts Faculty, even if such a threat was unspoken and not formal, no formal commitment to a restriction of their enterprise should have been needed.

This oath was followed up on 2 September 1276 by a decree applying to the entire university “which prohibited teaching in secret or in private places, with

³⁹[Gr74, pp. 43–44]; [CUP, I, pp. 486–87, pp. 277–278].

⁴⁰For more on Albert the Great’s role in the university of Paris in the second half of the 13th century, see [Wip95b, §2].

⁴¹The proclamation was issued “on the Wednesday following the feast of blessed Nicholas”; if blessed Nicholas is the popular Saint Nicholas of the 6 December feastday, that puts the following Wednesday on 10 December [WiWo69, p. 366]. Many of the propositions condemned in 1270 had already been denounced by Bonaventure in 1267 and 1268 [Wip77, p. 180].

⁴²“No master or bachelor of our faculty should presume to determine or even to dispute any theological question, as concerning the Trinity and incarnation and similar matters, since this would be transgressing the limits assigned him. . . adding further that, if any master or bachelor of our faculty reads or disputes any difficult passages or any questions which seem to undermine the faith, he shall refute the arguments or text as far as they are against the faith or concede that they are absolutely false and entirely erroneous” [Tho44, pp. 85–86]

the exception of logic and grammar”, and that all other lessons needed to be in public [Wip77, pp. 185–86].⁴³ Such oaths were not restricted to the Arts Faculty, however. During this period, teachers in the Theology Faculty were also required to swear “not to teach anything in favor of articles that had been condemned at the Roman Curia or in Paris” [Thi97b, p. 97].

These restrictions imposed by the Church were not specific to Aristotelian natural philosophy. Throughout the 13th and 14th centuries the Church was heavily involved with academic life in Paris, through the condemnation of theses and the trials of academics on the charge of heresy. As Thijssen notes, “Tempier’s [1277] condemnation is only one of the approximately sixteen lists of censured theses that were issued at the University of Paris during the thirteenth and fourteenth centuries” [Thi97a, p. 85]. One curious point to note is that “with few exceptions, all cases of academic condemnations between 1200 and 1378 concerned masters or bachelors of theology” [Thi95, p. 218]. The focus on the members of the Arts Faculty in the various ecclesiastical prohibitions and restrictions on Aristotle’s books on natural philosophy is a symptom of how dangerous the church felt this new material was: No longer were errors in theology only being found among those studying theology as their primary function, but also among those whose focus was secular.

Such was the state of affairs in Paris at the time of Tempier’s condemnation. In Oxford in the early part of the thirteenth century, there were no similar bans against the dissemination of the Arabic and newly discovered Greek philosophies. As a result, by the 1240s the study of these texts was firmly in place in Oxford, with such scholars as Roger Bacon taking this information over to Paris [Lef68, p. 272]. However, the proximity of the two universities, both geographically and academically, and the exchange of students and teachers between them meant that Oxford was by no means wholly isolated from the trials faced by Paris.

3 The propositions

The propositions in Tempier’s list are not arranged in any systematic fashion, a fact which many people take as evidence for his quick action upon receipt of the papal letter (See §1.1). Mandonnet in [Man08] reordered the propositions by subject, and renumbered them accordingly; the first division is between errors in philosophy (179) and errors in theology (40). The errors in theology are divided into those on the Christian law (five), on the dogmas of the Church (15), on the Christian virtues (13), and on the last ends (seven). Those in philosophy are divided into those on the nature of philosophy (seven), on the knowability of God (three), on the nature of God (two), on divine science or knowledge (three), on divine will and power (11), on the causation of the world (six), on the nature of intelligences (23), on the function of the intelligences (eight), on the heavens and on the generation of lower beings (nineteen), on the eternity of the world (ten), on the necessity and contingency of things (15), on the principles of material things (five), on man and the agent intellect (27), on the operations of the human intellect (ten), on the human will (20), and on ethics or moral matters (ten). Of course, such divisions are subjective, and there are propositions which Mandonnet places in one category which could easily have gone into another: No

⁴³See [CUP, I, 539].

great significance should be read into these categories. We use the numbering system found in the *Chartularium*, not Mandonnet's renumbering; the English translations in [FoO'N] use Mandonnet's renumbering.

Not one of these 219 propositions can be said to refer to logic, strictly speaking. However some of the propositions concern the nature and the scope of philosophy and philosophical method:

37 *Quod nichil est credendum, nisi per se notum, vel ex per se notis possit declarari.*⁴⁴

40 *Quod non est excellentior status, quam vacare philosophie.*⁴⁵

145 *Quod nulla questio est disputabilis per rationem, quam philosophus non debeat, disputare et determinare, quia rationes accipiuntur a rebus. Philosophia autem omnes res habet considerare secundum diversas sui partes.*⁴⁶

151 *Quod ad hoc, quod homo habeat aliquam certitudinem alicujus conclusionis oportet, quod sit fundatus super principia per se nota. — Error, quia generaliter tam de certitudine. apprehensionis quam adhesionis loquitur.*⁴⁷

154 *Quod sapientes mundi sunt philosophi tantum.*⁴⁸

These should be seen not so much as attacks on the application of logical methods to theological problems but as condemning positions which do not allow for the acquiring of knowledge through supernatural revelation or in which the members of the Arts Faculty might be appearing to overstep the bounds that they had voluntarily agreed to six years earlier. So long as these two issues are respected, one could continue to apply philosophical methods such as logic and dialectic to theological problem without falling afoul of Tempier's condemnation. Such practice throughout the 14th century shows that whatever restriction on the application of philosophical method the condemnation had, it was minor and short-lived.

On the other hand, there are a large number of propositions concerning the nature of time and necessity, the condemnation of which affects the types of modal or temporal logic which can be adopted without being heretical. A number of the propositions require the denial that the world is eternal. But one proposition says more than that—one must deny not only that the world is eternal, but also that time is eternal:

4 *Quod nichil est eternum a parte finis, quod non sit eternum a parte principii.*⁴⁹

⁴⁴ "That one should not hold anything unless it is self-evident or can be manifested from self-evident principles" [FoO'N, no. 4].

⁴⁵ "That there is no more excellent state than to study philosophy" [FoO'N, no. 1].

⁴⁶ "That there is no rationally disputable question that the philosopher ought not to dispute and determine, because reasons are derived from things. It belongs to philosophy under one or another of its parts to consider all things" [FoO'N, no. 6].

⁴⁷ "That in order to have some certitude about any conclusion, man must base himself on self-evident principles.—The statement is erroneous because it refers in a general way both to the certitude of apprehension and to that of adherence" [FoO'N, no. 3].

⁴⁸ "that the only wise men in the world are the philosophers" [FoO'N, no. 2].

⁴⁹ "That nothing is eternal from the standpoint of its end that is not eternal from the standpoint of its beginning" [FoO'N, no. 87].

- 87 *Quod mundus est eternus, quantum ad omnes species in eo contentas; et, quod tempus est eternum, et motus, et materia, et agens, et suscipines; et quia est a potnetia Dei infinita, et impossibile est innovationem esse in effectu sine innovatione in causa.*⁵⁰
- 89 *Quod impossibile est solvere rationes philosophi de eternitate mundi, nisi dicamus, quod voluntas primi implicat impossibilia.*⁵¹
- 99 *Quod mundus, licet sit factus de nichilo, non tamen est factus de novo; et quamvis de non esse exierit in esse, tamen non esse non precissit esse duratione, sed natura tantum.*⁵²
- 101 *Quod infinite precesserunt revolutiones celi, quas non fuit impossibile comprehendi a prima causa, sed ab intellectu creato.*⁵³
- 200 *Quod evum et tempus nichil sunt in re, sed solum in apprehensione.*⁵⁴

Proposition 3 is closely connected with the one proposition of possible logical interest in Tempier’s 1270 condemnation, namely Proposition 5 which condemns the view “that the world is eternal” [WiWo69, p. 366].

Grant in [Gr96, p. 73] picks out three major controversies which are illustrated in the Paris condemnations. Two of these controversies could bear on the nature of modal or temporal logic: (1) the eternity of the world and (2) God’s absolute power.⁵⁵ The first affects the nature of time, and the second is connected to the nature of possibility and necessity. Concerning the first, the idea of an eternal world was “regarded as potentially dangerous” says Grant, noting that “27 of the 219 articles condemned in 1277 (more than ten percent) were devoted to its denunciation” [Gr96, p. 74]. Concerning the second, “theological authorities wanted everyone to concede that God could do anything whatever short of a logical contradiction” [Gr96, pp. 78–79], thus stressing logical possibility, rather than temporal or physical possibility, as the preeminent type of possibility.

As we discussed earlier, in many cases it is extremely difficult to find examples of texts where any of these 219 propositions are explicitly endorsed.⁵⁶ With

⁵⁰ “That the world is eternal as regards all the species contained in it, and that time, motion, matter, agent, and receiver are eternal, because the world comes from the infinite power of God and it is impossible that there be something new in the effect without there being something new in the cause” [FoO’N, no. 85].

⁵¹ “that is is impossible to refute the arguments of the Philosopher concerning the eternity of the world unless we say that the will of the first being embraces incompatibles” [FoO’N, no. 89].

⁵² “That the world, although it was made from nothing, was not newly-made, and, although it passed from nonbeing to being, the non-being did not precede being in duration but only in nature” [FoO’N, no. 83].

⁵³ “That there has already been an infinite number of revolutions of the heaven, which it is impossible for the created intellect but not for the first cause to comprehend” [FoO’N, no. 91].

⁵⁴ “That eternity and time have no existence in reality but only in the mind” [FoO’N, no. 86].

⁵⁵ For medieval views on the eternity of the world, see [DaAr].

⁵⁶ Donati provides an example of an author who appears to be explicitly endorsing opinions condemned by Tempier. In [Don98] she discusses an anonymous text which appears to date from around the time of the condemnations. She says that “our author maintains that the first cause cannot produce temporal effects immediately” and that “this doctrine contradicts the Christian doctrine of the possibility of immediate divine causality even in the realm of

respect to the absolute eternity of the world, denying the creation of the world in time by God, “no one has yet been identified who held this heretical opinion without qualification” [Gr96, p. 75].⁵⁷ What we find, instead, is this opinion held with qualification. One person who held such a qualified view was Boëthius of Dacia. Boëthius argued not that the world did not come into being, but that its coming into being could not be demonstrated by philosophical methods.⁵⁸

The denial of the eternity of the world raises many questions, such as whether this forces time also to be not eternal? If time is not eternal, was it created when the world was created? The view that time is not eternal, but was created simultaneously with the world is that of William of Conches, who wrote in the second quarter of the 12th century that “Aristotle held that the world did not begin ‘ever’, that is, in time, but rather with time, as Augustine had taught” [Da84, p. 170].⁵⁹ Dales notes that this view was extremely influential in the 13th century, and shows how the Aristotelian view of time could be brought into harmony with the more traditional Augustinian view. We discuss these issues further in §5.

In terms of logical matters, the Oxford prohibition is much more exciting.⁶⁰ Kilwardby’s list contained 10 logical propositions whose teaching was prohibited.⁶¹ Three are connected with issues in time and modality:

6 *Item quod veritas cum necessitate tantum est cum constancia subjecti.*

8 *Item quod omnis propositio de futuro vera est necessaria.*

9 *Item quod terminus cum verbo de presenti distribuitur pro omnibus differentiis temporum.*

Proposition 3 is the problem of the truth value of future contingent statements. This is the problem expressed in Aristotle’s discussion of whether there will be a sea battle tomorrow in *De interpretatione* 9. As *De interpretatione* was translated by Boëthius it was known to the Latin west from the 6th century onwards. The problems that assigning truth values to contingent sentences about the future raises in connection with free will and determinism of action are of crucial importance to the Christian philosopher as a deterministic position on action may be impossible to reconcile with responsibility for one’s actions.⁶²

Now that we are familiar with the propositions in both the Paris and the Oxford actions which could be relevant to the development of modal and temporal logic in the next centuries, we can turn to a discussion of the aftermath of the condemnation and prohibition.

temporal effects and was condemned in 1277” [Don98, p. 374]; the relevant articles are 43, 54, 61, and 93. But it is not clear to what extent these opinions have a bearing on the nature of time or necessity.

⁵⁷It is tempting to draw the conclusion that this fact is an explanation why Tempier did not name anyone explicitly in his condemnation. However, because of the number of manuscript sources which have not yet been seriously investigated or which have been lost in the intervening time, such a conclusion is unwarranted.

⁵⁸“The eternity of the world, however, is no more demonstrable than is its creation” [Gr96, p. 75].

⁵⁹See also [Da84, fn. 7].

⁶⁰Curiously, no form of the Thomistic proposition about the possibility of an eternal world (nos. 87, 89 in the Paris condemnation) appears in Kilwardby’s prohibition. See [Wil74, p. 126].

⁶¹[CUP, I, 558–60]; we list all 10 of the propositions in Appendix A.

⁶²A discussion, from a formal point of view, of the problem of future contingents as they connect to free will, determinism, and the foreknowledge of God can be found in [Fos].

4 After the condemnation

In §1.1 we raised some questions about the more long-term effects that the condemnations had: Was there any long-term effect, or did the furor die down by the middle of the 14th century? Was this a signal of the growing strength of the stranglehold the Church had upon science and scientific learning? Or was this the birth of modern science, as Pierre Duhem has claimed? There is no doubt that one of the effects of Tempier’s condemnation is that the already eroding relationship between theology and philosophy, specifically natural philosophy, was further damaged.⁶³ What is less clear is how much the condemnation affected *logic* specifically, and that is our concern for the rest of the paper. Before investigating in §5 the extent of the effects the two actions had on logic, we first sketch some of the historical facts in the centuries following 1277.

4.1 Oxford

The prohibition in Oxford drew immediate protest from the Dominicans. In the Dominican chapter of 1278, two lectors from Montpellier, Raymond Mevouillon and John Vigoroux, were appointed to make an investigation of Kilwardby’s prohibition and were given the power to remove from office anyone who cast aspersive light on Aquinas’s works [We84, p. 468]. However, they were not able to touch the instigator of the prohibition. On 12 March 1278, probably at the instigation of Peter of Conflans, Pope Nicholas III promoted Kilwardby as cardinal bishop of Porto, and Kilwardby thus had to resign as archbishop of Canterbury, which he did on 5 June 1278.⁶⁴ On 28 January 1279, Nicholas appointed Franciscan John Pecham in Kilwardby’s place, and Pecham was consecrated on 19 February 1279.⁶⁵

Five years later, on 29 October 1284, Pecham summoned the masters of Oxford to the abbey of Osney, where he both renewed and strengthened Kilwardby’s prohibition of 1277.⁶⁶ The thirty propositions were no longer just prohibited, but also condemned [Ir01, p. 256]. However, he tempered this in a letter dated 10 November 1284, where he asked the chancellor of the university to investigate the condemned propositions and those propagating them, with a view towards reexamining them.⁶⁷ Pecham said further that he would consider whether all thirty propositions still needed to be condemned, or whether perhaps they could start being taught again in the schools. Until such time as he made a decision, however, the penalties for propagating these theses were to remain in place as before.⁶⁸

⁶³This is the subject of various papers by Grant; see the bibliography. Also, Thijssen notes that “[i]n the historiography of science, Tempier’s condemnation has generally been perceived as a symptom of the conflict between science and theology” [Thi97a, p. 85].

⁶⁴[Cr50, p. 248]; [Kno42, p. 184], [Wil74, p. 128].

⁶⁵[Cal55, p. 16]; [Cr50, p. 249]; [Kno42, p. 178].

⁶⁶[La84, p. 118]; [Wil97, p. 174]. For a full discussion of Pecham’s visitation, see [Dou52].

⁶⁷[Wil93, pp. 115–6]. This letter was partly motivated by a complaint made by the Dominicans at Oxford against Pecham’s action as Osney [Wil97, p. 174].

⁶⁸[Cal55, p. 16]. On one proposition Pecham stood firm: “one particular thesis should be most strictly proscribed, namely, the execrable error of those who posited one single form in man”. A week earlier when Pecham met with William of Hothum, the Dominican Provincial, Pecham told William that he intended to “renew Kilwardby’s condemnation of Thomist teaching on unity of form” in his visitation a week later [Cr50, p. 251].

However, 1284 appears to be the last moment of real controversy on these issues in Oxford. Just two years later, in 1286, the Dominican Chapter accepted as orthodox the full works and views of Aquinas, one of their most preeminent members.⁶⁹ After this, “the [Oxford] prohibitions were generally ignored” [La84, p. 117]. That whatever effect the prohibition may have had was mitigated with the passage of time is evidenced by the fact that in Lyte’s 19th-century history of the university of Oxford, the Tempier’s actions in Paris and Kilwardby’s and Pecham’s in Oxford are mentioned only obliquely, in a passing reference to the condemnation of two of the views of Thomas Aquinas [Ly86, p. 114].

4.2 Paris

Though the sources of the errors in the Oxford and Paris actions were never definitively identified, the people the condemnations were generally thought to be directed against (Siger of Brabant, Boëthius of Dacia, Richard Knapwell, etc.) all were strongly affected by the condemnation and prohibition.⁷⁰ As we noted earlier (fn. 23), some historians today believe that Tempier’s condemnation was like Kilwardby’s, that is, a prohibition to teach and not really a condemnation. Regardless of whether it was, Tempier’s action “was certainly interpreted as [a condemnation] by late-medieval philosophers and theologians. . . In fact, authors such as Richard of Middleton, Scotus, Bradwardine, Gerson, and many others referred to the theses proscribed in 1277 as *articuli damnati, condemnati*, or even *excommunicati*” [Bia98, pp. 95–96]. Though the legal force of the condemnation was only in Paris, “its influence occasionally spread to England where eminent English scholastics found occasion to cite one or more of the articles as if relevant to, and authoritative in, England” [Gr79, p. 214]; two examples of these eminent scholastics that he gives are John Duns Scotus and William of Ockham, and Murdoch mentions *pro forma* references to condemned articles by Ockham and Peter Ceffons [Mu98, p. 114]. Another example is the English theologian Walter Catton. In his commentary on the sentences (c. 1322–23), he mentions the Paris condemnation in the prologue of his second question:

Secundo sic: Si visio requiretur ad illam notitiam abstractivam causandam, hoc esset in aliquo genere causæ; non materialis, formalis, finalis certum est; ergo in genere causæ efficientis. Sed omnem efficientiam alterius potest Deus supplere. Oppositum istitus est articulus condemnatus in Parisius. Ergo istam notitiam potest Deus causare visione ista circumscripta [O’C55, p. 235].

But even though the members of the Arts Faculty probably respected the Parisian condemnations and did not “willfully repudiate its separate articles” [Gr79, p. 213, fn. 5], there were efforts on the part of members of the Theology Faculty to reduce the scope and effect of Tempier’s condemnation. Only twenty years later, Godfrey of Fontaines, a member of the Theology Faculty at Paris,

⁶⁹See [Be37, p. 70]. Even so, Kilwardby’s condemnation of the unity of the substantial form “was to be remembered, among others, by Richard FitzRalph and Adam of Woodham in their debates in the early 1330s” [Lef68, p. 292].

⁷⁰“Siger of Brabant, threatened by the inquisition, never returned to teaching. Boethius of Dacia disappeared from the academic scene. Richard Knapwell lost his appeal at the papal curia” [Wil97, p. 178].

noted in his *Quodlibet* XII of 1297/98 that “at the University of Paris, the Paris Condemnations of 1277 were ignored completely or interpreted in a way entirely contrary to the intentions of their framer” [Wil97, p. 178]. He went so far as to publicly defend the tenets of Thomas Aquinas, and to “conclude that the then Bishop of Paris should at least suspend the condemnation of those propositions which appeared to have been taught by Thomas” [Wip95b, p. 19].

This was done in 1325, when Tempier’s successor as bishop of Paris, Stephen de Bourret, proclaimed that the 1277 condemnation “had no canonical value” with respect to any censured Thomistic proposition. This revocation of censure on the Thomistic thesis of the unity of the form was reaffirmed by Pope Pius X, who in 1914 said that “the thesis, proscribed at Oxford in 1277 and 1284–6, is one of the most fundamental tenets in the Thomist synthesis” [Cal55, p. 34].⁷¹ Despite this revocation, “the condemnation was generally effective at Paris throughout the fourteenth century” [Gr79, pp. 213–214], and over a century later, the Dominican John of Naples “found it necessary to write an apology to the effect that Aquinas’s views were not affected by Tempier’s condemnation, and that, consequently, it was legitimate to teach Aquinas’s works at Paris without danger of excommunication” [Thi97b, p. 88].

From this, we can to a large extent agree with Knowles when he says that

[t]he Paris and Oxford condemnations of 1277, like similar events in the history of ideas before and since, had had precisely the opposite effect to that intended by the two prelates concerned. Instead of strangling the infant Thomism in the cradle, they had brought about a new solidarity among all its adherents [Kno42, p. 186].

Nevertheless, as Grant shows in [Gr79], natural philosophers throughout the 14th-century frequently cited or make implicit reference to propositions condemned by Tempier (he argues that these references “should convince us that it was taken seriously throughout the fourteenth century and that it encouraged innumerable invocations of God’s absolute power in a variety of hypothetical physical situations” [p. 239]). The question still remains, however, what effects, if any, that these condemnations had on the more narrow fields of modal and temporal logic in the 14th century. We attempt to answer this in the next section.

5 Modal and temporal logic in the 14th century

The two topics covered in Tempier’s condemnation and Kilwardby’s prohibition which are most relevant to modal and temporal logic are, as we noted in §3, the questions of the nature of necessity and of the eternality of the world and of time. There is evidence that William of Ockham knew of the Condemnations, but probably did not know the articles themselves,⁷² and we know that two of the most influential 14th-century logicians were familiar with Tempier’s condemnation: the French logician and member of the Arts Faculty John Buridan, and

⁷¹See also [Thi97b, p. 88]; [Wip95a, p. 239]; [Wil97, p. 177].

⁷²Mahoney notes that “[w]hether or not Ockham’s thought was influenced by the Condemnation, it remains that he did indeed allude to it in his ‘Dialogus’. However, in the text... he does not reveal knowledge of much of its content nor does he appear to be wholly accurate as to what he says regarding Thomas and the Condemnation” [Mah01, p. 920].

English logician and master at Oxford Thomas Bradwardine. In his treatises on motion written in the 1340s and 50s, Buridan mentions the 1277 condemnation, and Grant says that he “not only upheld them, albeit reluctantly, but occasionally used them to advantage” [Gr79, p. 232; p. 213, fn. 5]. Buridan also referenced condemned articles in his questions on *De caelo*, on *Physica*, and on *Ethica* [Mah01, p. 921]. Bradwardine referred to proposition 52, *quod id, quod de se determinatur ut Deus, vel semper agit, vel numquam; et, quod multa sunt eterna*, when discussing the eternity of the world [Gr79, p. 237], and there are many references to various articles in his *De causa Dei* [Mah01, p. 923]. In the following century, the issue of the bounds of the Arts Faculty arises again, with references to the 1277 condemnation; Mahoney says that “[i]n his ‘Contra curiositatem studentium’, John Gerson (†1429) deplores the fact that philosophers have not stayed within proper limits, since they have raised unanswerable questions about the beginning of the world” [Mah01, p. 923].

But though we have clear evidence that some of the most prominent logicians in the 14th century were familiar with the condemned articles, there is little evidence that they ever referred to them in the context of pure logic. Perhaps the most telling evidence is Mahoney’s article, the goal of which is simply to chronicle references to the Condemnation found in later philosophers, that is, from the late thirteenth to the late sixteenth century” [Mah01, p. 902]. Not a single reference that he discusses comes from a logical treatise. Why is this?

5.1 Modal logic

Grant argues that one major consequence of the Paris condemnation was to “manifest and emphasize the absolute power of God” [Gr79, p. 214]. The only necessity by which God can be bound is logical or conceptual necessity. Contemporary philosophers of logic who are interested in modal logic often focus on the question of “what is the [correct] nature/conception of necessity and how can we model it?” From this point of view, one could look at the 1277 condemnation in Paris as an attempt to answer this question, namely that the correct conception of necessity, at least insofar as God is concerned, is logical necessity, and so any logic which expresses a more restricted notion of necessity may be a useful tool, but will not, ultimately, be a guide to truth. If a contemporary philosopher was presented with Tempier’s condemnation, then a natural reaction would be to say “Okay, the most important type of necessity is logical necessity, and as this is modeled in the modal logic K, this means that K is the correct logic of necessity. Any other modal logic may be a useful heuristic, but it is not the *real* logic of necessity.”

But this is a very modern reaction. Medieval logicians working in modal logic generally took as a starting point the relationships of implication between modal sentences and moved next to the validity of modal syllogisms, following Aristotle. Questions about the nature of necessity or even the truth conditions for individual modal sentences were often completely disregarded (see [Uc08]). The task of finding modal axioms which correspond to different conceptions of necessity and possibility was simply not one in which medieval logicians were involved.

There is one 14th-century logician who did take seriously the idea of possibility as logical non-contradictoriness: John Duns Scotus. His theory of modality is rooted in the intellect of God: Anything which can be understood or con-

ceived receives its being as intelligible or understandable in the intellect of God. These intelligible beings make up the various possibilities. Some intelligible beings are not compossible with others; compossibility, understood as logical compossibility, partitions the conceptual space into sets of beings all of which are compossible. One of these sets God actualized, and the others though unactualized are possible. (In this, Duns Scotus is rejecting the view often attributed to Aristotle that something is possible only if it is actualized at some point.) These unactualized sets of possible intelligibles and their actions are seen by many to be conceptual correspondents with the modern idea of using possible worlds to evaluate modal propositions.⁷³ However, while Duns Scotus was undoubtedly familiar with the condemned propositions, I have found no indication that he ever cited them as grounds for developing the modal theory that he did.

5.2 Temporal logic

We noted in §3 that a number of the propositions condemned by Tempier dealt with the nature of time, e.g., whether the world is eternal, whether time is created, etc. The situation of modern philosophers working in modal logic that we presented in the previous subsection is also true for those working in temporal logic. For a modern-day temporal logician, restrictions on the nature of time have an immediate effect on the logic. This is most clearly seen in the early literature in temporal logic, when correspondence results were the primary focus and a number of different axioms were proved to correspond to certain properties of time, such as density, linearity, backwards linearity, discreteness, etc.⁷⁴ In this modern perspective, with its emphasis on representing properties of time by logical axioms, an ecclesiastical statement to the effect that time had a beginning would mean that the only theologically sound temporal logics are those which have no infinitely descending chains of temporal points.

But, as with modal logic, this was not the mindset of the medieval logician. For the most part, there was no separate branch of medieval logic which could be called temporal logic, strictly speaking. Questions of tense were dealt with by the theory of supposition. Briefly, the supposition of a term is that for which it stands within a proposition (hence, supposition is covered by syntactic properties, not semantic).⁷⁵ In a present-tensed proposition, the supposition of a term would be a subset of presently existing objects, but in a past- or future-tensed proposition, the supposition of a term was said to be *ampliated* by the verb, that is, to have its range of application extend to both presently existing objects and past or future objects. The way that the tense of a verb affects the supposition of a term by ampliation is best understood, from the point of view of modern logic, as a type of quantified temporal logic (see [Uc-]). This means that the proposition with the most relevance to temporal logic is not that in Kilwardby's prohibition about the necessity of future contingents, but rather Proposition 9, *quod terminus cum verbo de presenti distribuitur pro omnibus differentiis temporum*. Lewry provides a short survey of early 14th-century Oxford texts which address this proposition:

⁷³For further information on Duns Scotus's modal theory, see §4 and the bibliography of [Knu03].

⁷⁴See, e.g., any paper on temporal logic by Arthur Prior.

⁷⁵For more information on supposition theory, see [Sp82].

The author of the questions on the *Prior Analytics* preserved by John Aston maintained that a verb, such as *currit*, had from its imposition a form such that whenever and by whomsoever it was uttered it would refer to the present of the utterance. [John] Stykborn said, at the end of his questions on the *Praedicamenta*, that if the reference were to the present instant, then when that became past, the time-reference would be to the past, so there must be a reference to a common time, which could be realized in many instants successively rather than confusedly for many at once. For these authors the admission of a common time, rather than a confused time, was a way of respecting the contextually determined reference of tensed verbs [Lew84, p. 424].⁷⁶

The question which is raised by this proposition is related to the idea, found in Kilwardby’s commentary on the *Perihermeneias* and based on views of Augustine, that every tensed statement can be rephrased as a present tense statement [Lew81, p. 250]. For example, the statement *Caesar fuit* is equivalent to *Caesar est praeteritus*, and *Antichristus erit* is equivalent to *Antichristus est futurus* (and in this way the connection with Proposition 8, on the truth value of future contingents, becomes more clear).

But while this proposition and its adherents and opponents are of great logical interest, unfortunately, as Lewry notes, in this case “there is little to suggest that theology had imposed an orthodoxy upon logic” [Lew84, p. 425]. So while we have an example of a logical proposition whose teaching was prohibited on the basis that it could lead to error, which is clearly connected to issues found in medieval temporal logic, and which was discussed by logicians after 1277, it is not clear to what extent this can be seen as a case where the course of logic was *changed* because of an ecclesiastical action.

6 Concluding remarks

If we now return to our original question “what effect did the condemnations of 1277 have on the development of modal and temporal logic?” the puzzling answer appears to be negative. Since the goal of studying the 1277 condemnations to determine how they affected logic in the succeeding centuries seemed so natural, one is left wondering why the results are so seemingly unsatisfactory. Our discussion in §5 gives an explanation: For a contemporary logician working in modal and temporal logic, the nature of necessity and of time are of crucial importance, because one of the primary goals is to develop axioms which model these properties and to prove correspondence results concerning those axioms. But these were simply not the priorities of medieval logicians. Instead, their interests lay in the inferential relations between modal propositions and in the

⁷⁶The anonymous text is found in Worcester Cath. MS Q.13; Stykborn’s commentary is found in Caius MS 344/540. [Lew81, fn. 141, 143] provides the relevant quotes: *Dico quod habet ab impositore quod quandocumque et a quocumque proferatur, consignificet praesens, non hoc tamen praesens vel illud, sed illud quod est vere praesens respectu prolationis. Quod dico de praesent, dico etiam de praeterito et futuro...* and *Ad quaestionem dicendum est quod hoc verbum, ‘est’, copulat pro tempore communi et non confuso. Ratio est ista, quia si significaret instans quod unc instat, cum illud fiet praeteritum, aliquando esset consignificatum suum praeteritum, cum tamen semper copulat pro praesenti.*

reference of terms in quantified tensed statements. We are surprised that the 1277 condemnation of Paris and the 1277 prohibition of Oxford did not have a greater affect on logic than they appear to have had because we have projected the priorities of a 21st-century logician to the 14th-century logicians. Once we understand this difference in priorities and goals, then it is no longer so surprising that the effect the actions had on the development of natural philosophy and natural science did not spill over into logic.

A Logical errors in the Oxford prohibition

We list here the ten errors of logic in Kilwardby’s prohibition.

1. *Quod contraria simul possunt esse vera in aliqua materia.*
2. *Item quod sillogismus peccans in materia non est sillogismus.*
3. *Item quod non est suppositio in propositione magis pro supposito quam pro significato, et ideo idem est dicere, cujuslibet hominis asinus currit, et asinus cujuslibet hominis currit.*
4. *Item quod animal est omnis homo.*
5. *Item quod signum no distribuit subjectum in comparatione ad predicatum.*
6. *Item quod veritas cum necessitate tantum est cum constancia subjecti.*
7. *Item quod non est ponere demonstracionem sine rebus entibus.*
8. *Item quod omnis propositio de futuro vera est necessaria.*
9. *Item quod terminus cum verbo de presenti distribuitur pro omnibus differentiis temporum.*
10. *Item quod ex negativa de predicato finito sequitur affirmativa de predicato infinito sine constancia subjecti.*

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