

## ***I LUOGHI NOSTRI***

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***I LUOGHI NOSTRI***

**DANTE'S NATURAL AND  
CULTURAL SPACES**

Edited by Zygmunt G. Barański,  
Andreas Kablitz and Ülar Ploom

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and Cultural Spaces

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*To the memory of  
Irina Prihodko*



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# I LUOGHI NOSTRI

## AN INTRODUCTION<sup>1</sup>

The present volume is the principal outcome<sup>2</sup> of the interdisciplinary conference “Dante’s rhetoric of space(s) and contemporary Dante research” held at Tallinn University in May 2013. The reader will find here conference proceedings in the real meaning of the word: the papers presented are elaborated essays which, in respect to their initial scope and ideas, have in most cases been extended and refined. On the other hand, in addition to nine essays based on the papers given at the Tallinn conference, two have been written specially for this collection.

The title of the volume is doublefold. On the one hand it reveals that we, the authors, have in mind specific topics of research related to Dante’s work and that these topics together make up “*i luoghi nostri*”. On the other hand, it also suggests, playing on the quotation from *Paradiso* XXVII, 22–27, where St. Peter expresses his angry discontent at the dubious and often ignominious behaviour of his fellow popes, that we, as Dante scholars, should also ask ourselves what our situation is as researchers with regard to Dante as man and poet of the *Trecento*, and what our relationship is to that colossal cliff of accumulated Dante scholarship now that 750 years have passed since the poet’s birth. Therefore, the question of research methodologies and methods arises. What approach should be adopted to study and interpret Dante today? Should one employ a historical and philological perspective on Dante’s work and his cultural background, including the texts which circulated in his day and the early commentaries to his work, thereby avoiding fascinating ideas

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<sup>1</sup> I sincerely thank Zygmunt G. Barański for his careful reading of the Introduction. I also wish to thank Andreas Kablitz for his comments on the selection of the essays.

<sup>2</sup> Some papers read at the Tallinn Conference have been or will be published in other academic volumes.

and hypotheses before there is a sound basis for proposing these? Or has a researcher and interpreter the right to freely hypothesise on the ground of intellectually attractive theories, though it may be anachronistic in the strict sense? Of course, these are the extremes with a great many possibilities in between.

Traditional Dante scholarship seems to have privileged the first approach. However, we hold that both approaches are valid, since the first provides new or corrected insights into “old” knowledge, while the second opens up different, albeit tentatively justified perspectives on the interpretative paradigm. The question is of course about the limits of such a risky enterprise, and it is thus the responsibility of each scholar to decide and to substantiate his/her choices. Very often, historical hermeneutics combined with some new approach, such as semiotics, phenomenology or comparative studies, opens up new and intriguing paths. Dante himself was a pioneer in many aspects, experimenting with new stylistic and formal solutions, while courageously transforming traditional knowledge into “modern” and often unexpected understandings.

As to the range of topics, this volume focuses particularly on the question of space, both physical and mental, natural and cultural, be it the general cosmological order, of which Dante’s all-embracing mind never lost sight in his attempt to link this with the range of universal knowledge, or particular natural and cultural, linguistic and cognitive spaces that Dante may have known either directly or indirectly, and which he managed to fuse into a whole that still both fascinates and perplexes. Therefore, the volume includes a range of contributions, mostly on cultural and scientific knowledge (classical, Christian, Islamic, Jewish) and on the literary and artistic traditions accessible to Dante, but also on the poet’s impact on his readers.

The volume opens with **Theodore J. Cachey Jr**’s essay on Dante’s cosmology. Cachey points out that cosmological thought in Dante’s time was in a phase of development and renewal, and that during the late Middle Ages no clear-cut cosmological theory existed. Instead,

there were a mixture of elements drawn from Aristotelian physics and natural philosophy, Neoplatonist theory of light and emanation, and the Christian biblical tradition, all of which are apparent in Dante's work. Cachey argues that Dante's treatment of the cosmos stands out against a background of rather fragmentary depictions of the cosmic order. In his essay, Cachey chooses an approach that he defines as developmental, for Dante's thought dynamically evolves from the time he wrote the *Convivio* to the completion of the *Paradiso*. Dante seems to have elaborated his thought in the wake of the on-going debate on various questions connected with the cosmic order, such as the order of the heavens, the order of angels and their functions, the nature of the Empyrean, the discussion of infinity, and the relationship between the cosmic order and the general order of knowledge. Cachey presents Dante as both a synthesiser of previous knowledge and an innovator whose interests ranged from the nature of the universe to the geography of the Italian peninsula. Yet Cachey also shows that Dante took care to map his own birthplace in his cosmological system (*Inf.* XXIII, 94–96; *Purg.* XIV, 16–21; *Par.* VI, 52–54), thereby emphasizing his role in God's providential scheme of salvation history.

In contrast to Cachey's contribution, **John C. Barnes** focuses in detail on Dante's connections with one particular place in Tuscany, Casentino, the uppermost reach of the Arno valley, the landscape of which Dante depicts in various works and which testifies to his detailed knowledge of the area. Barnes shows when Dante visited Casentino and how these visits are reflected in his writings. The first recorded visit is connected to the battle of Campaldino. Aside from the reference to the movement of troops in the battlefield (*Inf.* XXII, 1–12), we can find a vivid description of a natural scene near the confluence of the Archiano and the Arno in the account of Buonconte da Montefeltro's death (*Purg.* V, 91–99 and 115–129). Dante's other recorded visits to Casentino relate primarily to the Conti Guidi, a powerful Ghibelline family, who owned castles in different localities. Barnes shows that Dante's visits were politically motivated,

relating first to his hope of returning to Florence and then to the campaign of Henry VII in Tuscany. Barnes clarifies Dante's contacts with the Guidi, including his blood ties with the Ravnigani branch of the clan, and the change in his attitude towards the Guidi after the failure of Henry's enterprise. We also find an account of the poet's alleged fascination with a lady of Casentino (*Epist.* IV and *Rime* XV) which, according to Barnes, may be a literary invention. Lastly Barnes focuses on the reasons why the inhabitants of Casentino are depicted as "filthy hogs" ("*brutti porci*") in *Purgatorio* XIV, 43–45. Barnes concludes by noting that, although we only have scanty information of Dante's stays in the Casentino, his writing proves how well he knew the place and how much he loved its beauty, whereas his memories of his relationship with the Conti Guidi are of a quite different order.

The next essay compares notions of space and the other world in Dante and Jewish medieval thought, with an emphasis on the Jewish tradition. **Eszter Draskóczy** suggests that the change in Dante's ideas on God's name and the nature of human language from *De vulgari eloquentia* to *Paradiso* XXVI may have been influenced by the Jewish mystic Abulafia. According to Abulafia, each letter of the tetragrammaton YHWH may stand for the divine name. Dante may have had this in mind when denoting God with the Latin I, which is equivalent to the Hebrew letter Y (yod). Draskóczy also draws a parallel between the idea that there were two primordial languages – the one which Adam and his first followers knew, and the one which Adam spoke with Eve and their children – and Dante's distinction between the language spoken in the Garden of Eden and that during the time of the Babelic confusion of tongues. Draskóczy also presents different ideas connected with God's two names El(ohim) and Y(HWH), as well as the interesting idea of the two semicircled yods, divine and human, which make the perfect circle, and which may also be connected to Dante's presentation of the divinity in the final scene of *Paradiso*. Draskóczy also discusses the notions of *maqom* (space, place), *shamayim* (heaven) and *shekinah* (presence)

with reference to God and space and suggests possible links with Dante. Finally, Draskóczy introduces several items present both in Jewish visionary literature and in the *Commedia*, for instance, the three beasts in *Inferno* I, the chariot and the candelabra in Earthly Paradise, and the wall of fire in *Purgatorio* XXVII. To suggest how these ideas and images may have circulated, Draskóczy ends her essay with a lengthy discussion of Dante's influence on *Maḥberet ha-Tofet ve-ha-Eden* (Poem of Hell and Paradise) by Immanuel of Rome.

**Ole Meyer** hypothesises a fairy tale matrix in the episode of the three allegorical beasts in *Inferno* I, which the Dante commentary tradition usually links to Jeremiah. According to Meyer, the three beasts can be analysed as manifestations of the Opponent and correspond to such fairy tale figures as the troll, ogre and father, on the masculine side, and to the witch and mother, on the feminine side, whereas the Helper (Vergil) combines both paternal and maternal elements. In this framework, it is possible to read both this episode and the entire *Commedia* as a tale of coming of age and of self-discovery. However, there is no philological evidence of the existence of this kind of tale in Dante's time, since the fairy tale as a written genre did not yet exist and motifs of wonder and magic appeared only in a fragmentary way in written texts. At the same time, Meyer claims that wonder tales may have circulated as a popular, oral genre. In support of his thesis, he discusses the differences between the written tales and an oral tale of Swedish origin documented before 1612. In the latter, as in *Inferno* I, animals appear as the Opponent, whereas in written versions they act as Helper. In conclusion, Meyer hypothesises that the beasts' episode both in *Inferno* I and in the Swedish oral tale may relate to a folk tradition which has "come down to us in scraps and fragments".

**Daniele Monticelli** too proposes a different methodological approach in respect to the traditional Dante scholarship. Basing his study of the problem of fear in the *Inferno* on phenomenological, semiotic and aesthetic premises, Monticelli proposes to put to one

side traditional theological and moral meanings in order to focus on the perception and emotions of Dante as the perceiving character. Therefore, he analytically separates Dante, the protagonist's sensory and emotional experience in the diegesis, from Dante the rationaliser's extradiegetic construction of the moral meaning of his character's cognition. It appears that the boundaries between emotional experience, memory and intellectual conceptualisation are not harmonious and create cognitive dissonances and narrative tensions. As to the phenomenology of fear, Monticelli compares Aristotle's *phobos* and Heidegger's *Furcht* and *Angst* and discusses their suitability for analysing the dynamics of Dante the protagonist's emotional state, for which he suggests a four stage trajectory. Beginning with *Inferno* III, Monticelli provides an analysis of what he calls Dante's aesthetic education, utilising Rancière's theory of the "partage of the sensible". In episodes of partial perception, definable as *unheimlich* in the Freudian sense, Monticelli detects the growth of the intensity of emotion and analyses how the deficiency of sight, which appears to be the most important precondition for conceptualisation, is compensated by some other forcefully emerging sensory faculties which substitute sight or merge with it. On the other hand, it also appears that excessive and rash sensorial perception will also hinder rational cognition. Consequently, Vergil educates his pupil to exercise sensorial moderation and to suspend judgement. In conclusion, Monticelli states that this kind of analysis of *Inferno* reveals the importance and independence of the body which, in itself, cannot be completely rationalised.

*Licentia poetica*, as well as personally and historically grounded motivations, are the main points which, according to **Antonio Sorella**, underlie the interrelation of Islamic and Christian elements in Dante's depiction of the *Malebolge* and in the iconographic representations of Purgatory by *maestro* Antonuccio in two fifteenth-century churches along the Adriatic coast. Sorella hypothesizes that Dante may have known *The Book of Muhammed's Ladder* in its Latin and French versions, since he appears parodically to transform one

of its central images, the narrow bridge that tests the souls, into the collapsed sixth bridge of *Malebolge*. Sorella compares different elements connected with the bridge and its parodic reworking with both Muhammed's text and Christian visionary narratives which employ similar imagery. As to the two frescoes titled *Judgement* in Santa Maria in Piano, Loreto Aprutino, and San Pietro Apostolo, Castignano, Marche, Sorella notes a similar attempt at synthesis. In this instance, however, the narrow bridge is connected with the representation of Purgatory. As both frescoes, painted shortly before the Council in Basel in 1431, seem to possess a great many traits of the main iconographic traditions concerning the representation of the other world, Sorella suggests that their commissioners may have intended to arrive at some sort of cultural synthesis and reconciliation. It is likely, however, that the two frescoes were influenced by Dante, as they bear obvious signs of the *Commedia*. Thus Antonuccio seems to follow Dante in combining Islamic and Christian elements. Sorella concludes that, even though Antonuccio does not consciously follow the farcical nature of Dante's treatment of the narrow bridge motif, the atmosphere in the frescoes, lively and plebeian, is not dissimilar to Dante's scene.

**Michelangelo Zaccarello's** analysis of the liturgical space of the *sacra rappresentazione* acted out in the Valley of the Princes in *Purgatorio* VII and VIII is an example of the philological approach in its strict sense. Drawing on sources that Dante may have known and on several earlier commentaries, he provides a description and an interpretation of the double aspect of the scene, both Scriptural and courtly. Zaccarello begins with the comparison between the natural scenery in the Valley of the Princes and court setting (VII, 73–74), before highlighting its ties to the description of the tabernacle in a passage from *Exodus* in the *Bibbia volgare* in circulation in Dante's times. The same recourse to a double source is observable in both the ritualistic and theatrical nature of the exemplary performance of the snake episode (VIII, 94–108). From a biblical perspective, the scene connects with *Genesis*; in courtly terms, it is an echo of court

entertainment. The biblical and courtly aspects are also exemplified in the ritualistic gestures of the two characters Dante meets, Guiglielmo of Monferrato (VII, 134) and especially Nino Visconti (VIII, 10–11). Finally, Zaccarello addresses another courtly aspect of the Valley, its so-called “feminine element”, noted by the early commentators.

In his essay on Dante’s representation of space, **Pekka Kuusisto** studies the interconnection of the geometrical and the biblical. With reference to the final image of the *Commedia*, Kuusisto calls attention to Dante’s attempt at measuring the iconographic *imago* in relation to the geometric *cerchio*. He proposes to read and analyse the final image as Dante’s attempt to explicate the one in terms of the other as occurs in two other crucial moments in Dante’s cognitive voyage: the turning point at the bottom of Hell and the crossing of the boundary from the physical universe to the Empyrean (*Par.* XXVII–XXXI). Kuusisto argues that Dante does not subjugate Aristotelian natural philosophy to theology but combines them. As to the perplexing turn at the centre of the Earth, Dante presents the experience in a way that modern thinkers explain in terms of topological non-orientability. However, not having the technical means to explicate what occurs physically to his protagonist, Dante has Vergil recount the story of Lucifer’s fall. As to the second transition, the problem involves the circumference and the inverse arrangement of the angelic orders in respect to the heavenly spheres, presented by Beatrice as a *nodo* in *Paradiso* XXVIII, 58–60. Referring to modern science, Kuusisto argues that Dante anticipates the basic model of modern relativistic cosmology – the hypersphere or the 3-sphere. As regards the interconnection of the biblical and the geometrical in the final image, Kuusisto discusses Dante’s use of the terms *effige* and *figura*. Dante uses the second term to denote the Empyrean (*Par.* XXX, 103). However, when focusing on the central point of the Empyrean, *figura* gives way to *effige*, referring either to the human face or the full figure of Christ. Lastly, Kuusisto discusses the architecture of Dante’s Empyrean in terms of sacred constructions, including the round-shaped temples which Dante knew in Ravenna.



**Ülar Ploom**'s essay studies aspects of Dante's treatment of space, focusing on the image of the *abisso*, which can be related to the question of freedom. Ploom first recalls some problems and peculiarities which arise from medieval conceptions of space: geocentric and/or theocentric, closed and/or open. Departing from these premises, he studies the connection between space and non-space in Dante's *Commedia*, discussed in the seminal work of Y. Lotman. Even though Dante seems to be using a different order of signs when depicting non-space, which function like icons rather than conventional signs, he translates non-space into space or quasi-space. Yet these symbolic spatial signs also carry additional semantic value, especially if different perspectives, God's and humanity's, are contrasted. Ideally, human horizontal narratives are projected onto God's vertical narrative and explicated in eschatological terms. Yet Dante often shows how collective human narratives can be wrong, since nobody can hope to fathom God's *eterno consiglio*. Thus, relating space and freedom, the central cognitive problem concerns the relationship between determinacy and indeterminacy. Ploom argues that this is the main key to studying the spatial marker of the *abisso*. His study of the occurrences of *abisso* shows that the semantic value of the marker changes radically from the *Inferno* to the *Purgatorio* and then to the *Paradiso*. Ploom also suggests that Dante's rhetoric of determinacy/indeterminacy may be studied through his use of such linguistic categories as deixis and aspect.

**Maria Maślanka Soro**'s essay examines Dante's transformations of pagan mythological space in the *Commedia*, which not only contains more references to the *regulati poetae*, i.e. his illustrious predecessors who wrote in Latin, than his earlier works, but also demonstrates an altogether different type of pathos. If Dante's earlier works treat the ancient authors as *auctoritates* who conveyed truth under an allegorical "veil", the *Commedia* often polemicises with their message. Maślanka Soro suggests that, besides the artistic emulation, Dante also transforms the contexts of the originals, giving them a new, edifying meaning. Dante may compare himself

to the ancients, yet his space of endeavour is different: humility and not pride (*Par.* XXV, 1–12). Maślanka Soro believes that Dante presents himself as inspired by the Holy Spirit (*Purg.* XXIV, 52–54), which entitles him to convert the alleged truths or half-truths of the pagans into the Christian truth and *caritas*. In this way, the classical sources often serve as negative prefigurations of new positive Christian meanings. Although Dante's attitude towards Ovid's *Metamorphoses*, an instance of *fabulosa narratio*, and Vergil's *Aeneid*, an example of *historia*, differs, he recognizes the limitations of both. Instead of Ovid's presentation of the relationship between God and man as envy, Dante presents an altogether different relationship. Despite his great admiration for Vergil as a poet, Dante often finds fault with the historical Vergil, the "unwitting prophet", who sometimes understands and sometimes not the new covenant between God and man. Maślanka Soro argues that it is Vergil's pessimism (especially evident in *Aen.* VI) that Dante rejects as a Christian.

The volume closes with **Zygmunt G. Barański's** essay on how one might investigate Dante's intellectual formation: its extent and character, its possible sources and dynamics, Dante's awareness of and his relationship to the intellectual debates of his time, his ideological sympathies, and his treatment of such issues in his works. Comparing the methodological differences between the pioneers in this branch of Dante studies and present-day scholars, he finds that the latter's approach is more nuanced. Indeed, the common recourse to a *Dante teologo* and a *Dante filosofo* has erroneously suggested that Dante may have enjoyed an intellectual formation similar to that of the professional theologians and philosophers of his time. In contrast to this perspective, Barański stresses the fragmentary and haphazard nature of Dante's learning. Thus, the poet's description of himself as "*inter vere philophantes minimus*" cannot be considered as conventional expression of modesty, but as a realistic hint regarding his intellectual acquisitions and standing. Indeed, Dante's aim was to present himself as a *scriba Dei* rather than as a *magister*.

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There exists an interesting convergence in the work of scholars represented in this volume and working in different critical paradigms. In particular, there is the tendency to consider Dante's totalising poetic representation of the universe as synthetic and syncretic. At the same time, Dante, not only synthesises but also transforms. It is also evident that the poet employs a specific kind of rhetoric, that of educating the reader alongside his protagonist. Yet, when doing so, new and unexpected meanings and suggestions arise. It is evident that the *intentio auctoris* and the *intentio operis* do not coincide. Consequently, some of the essays focus on interpreting Dante in light of modern intellectual acquisitions, highlighting those aspects which are relevant to the modern reader, while others continue to rely on philological and historical approaches, trying to clear a path back to a medieval Dante. Advanced work in both paradigms of course proves fruitful. There are still many empty and unexplored zones in the age-old universe of Dante scholarship, including those that cover his conception and understanding of space. *I luoghi nostri* has endeavoured to sketch a few of the things that we might find when stepping into such untrodden areas.

*Ülar Ploom*



# DANTE'S COSMOLOGY

Theodore J. Cachey Jr.

Cosmology is an anachronistic category when applied to Dante. The earliest uses of the word in the modern sense of a theory or doctrine describing the natural order of the universe date from the early modern period. The entry for 'cosmologia' in the *Enciclopedia dantesca*, accordingly, consists of just a single brief paragraph. Instead of a description of Dante's cosmology, the reader is referred to distinct articles on a wide array of subjects, ranging from angels to astrology to astronomy, the elements, the empyrean, the heavens, nature, the planets, and so on. The approach reflects the fragmented state of cosmological knowledge during the late medieval period. The extensive scholastic literature of the time regarding cosmological questions typically took the form of discontinuous and digressive commentaries on canonical texts, and was characterized by the absence of any cohesive integration of those questions. According to one authoritative historian of science "no genuine cosmological synthesis was developed during the late Middle Ages" (Grant 1978: 265).

It is therefore perhaps worth noting at the outset of an attempt to give an account of Dante's cosmology the extent to which the *Commedia* stands out in contrast to the disorganized cosmographical context of its time, almost as the great gothic cathedrals of the period stood out in their urban settings, and against the horizon of the surrounding countryside. The intellectual ferment and debate surrounding a wide array of cosmological questions evidently stimulated Dante even more fervently to pursue through poetry a higher synthesis of the diverse elements that constituted his cosmological picture. To achieve a full understanding of the order of creation was for Dante tantamount to achieving knowledge of the Creator, a goal that inspired him throughout his life and works. In the poem he

attempts nothing less than to represent as comprehensive and integrated a vision of the cosmos as was possible to human understanding and art. Thus, the image of the medieval cosmos that Dante accomplished in the *Commedia* might be considered, alongside the great Gothic cathedrals of his age,<sup>1</sup> the exception that proves the rule that no genuine cosmological synthesis was developed during the late Middle Ages, to the extent that Dante's poem compensated for the lack of consensus among contemporary theologians and philosophers by providing a synthesis achieved in the realm of poetry.

In fact, as historians of science have shown, cosmological thought was in Dante's time in a phase of development and renewal that was without precedent in the Latin West. Inquiry into the nature of the cosmos during the period was characterized by intense debates and controversies that put extreme pressure on the traditional systems of knowledge, including the trivium and quadrivium, the medieval encyclopedia, and especially, on the borders between Aristotelian natural philosophy and Christian theology. The cosmology made available in the West during the thirteenth and fourteenth centuries through translations into Latin of the works of Aristotle from Arabic and Greek, and the commentary tradition associated with them represented a considerable challenge for the Christian culture that received it, since within a Christian context, an understanding of the cosmos could not be pursued solely by the methods of reasoning and observation characteristic of Aristotelian natural philosophy. The new Aristotelian culture had to be reconciled with the authority of the Bible and with Christian theology, whose cosmology had been formed by a diverse mix of authoritative texts, beginning with a genre initiated by Church fathers on the six days of the creation that took the form of commentaries on Genesis 1 and included works by St. Basil, St. Ambrose, and St. Augustine. This Hexameral

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<sup>1</sup> George Duby concluded his study of cathedrals as types for the cosmos by remarking that the "*Divine Comedy* may be regarded as a cathedral, the last". *The Age of Cathedrals, Art and Society, 980-1420*, trans. Eleanor Levieux and Barbara Thompson (Chicago: University of Chicago Press 1981), 187.

("six-days") literature was combined with an array of late antique and early medieval Neoplatonic sources to form the foundations of a Christian picture of the cosmos. These included Plato's *Timaeus* in the partial fourth-century Latin translation-commentary of Calcidius, as well as other Neoplatonic authorities such as Macrobius, Pseudo-Dionysius Areopagite, Boethius, Martianus Capella, and a short but extremely influential treatise, the *Liber de Causis*, which was attributed to Aristotle but was eventually correctly recognized by Thomas Aquinas to be a synthesis of the Neoplatonist Proclus's (412–485) *Elements of Theology*.

A period of intense and uninterrupted study of the newly available Aristotelian corpus by late medieval theologians and natural philosophers stretched from the beginning of the thirteenth century to the end of the fifteenth. The ideological tensions between Aristotelian natural philosophy and Christian theology inherent in this process of translation and acculturation eventually produced the epistemological crisis that at the end of the medieval period led to the establishment of modern science. The syllabus of 219 philosophical and theological theses censured by the Bishop of Paris Etienne Tempier in 1277 for their incompatibility with Christian orthodoxy was symptomatic of these tensions between natural philosophy and theology during Dante's time. Tempier's condemnation was in response to rationalist Aristotelian currents at the university of Paris, and sought to counter the emergence of philosophy as an autonomous discipline vis-à-vis divine revelation and the authority of theology. A number of the condemned propositions involved important cosmological features of Aristotle's natural philosophy. Some historians of medieval science have argued that Tempier's insistence on God's absolute power liberated Christian thought from the dogmatic acceptance of Aristotelianism, and led to greater freedom and creativity in the realm of cosmological speculation (Grant 1979). Others have challenged this view, pointing out the paradox of attributing a liberating function to an essentially oppressive measure, and the anachronism of portraying the Aristotelianism of the time as

an obstacle to the development of science (Bianchi 1990). This difference of opinion regarding whether to attribute a progressive or conservative significance to the Condemnation of 1277 for the history of science foreshadows an important question about the significance one should attribute to Dante's cosmological synthesis: was it, in the end, a creative and innovative response to the new freedom of cosmological speculation unleashed by the Condemnations as some scholars have suggested (Eggington 1999), or did it express a conservative swan-song, a form of resistance to the new world of post Ptolemaic-Aristotelian space that was beginning to emerge in Dante's time?

Whatever its ultimate significance for the history of science, the condemnation of 1277 had the effect of signaling the need for further cosmological reflection and research so that conceptions compatible with both universally accepted principles of natural philosophy and with Christian revelation might be discovered. Both the cosmological picture that Dante develops and his attitude towards the project of developing it can therefore be usefully situated against this background of renewed debate and inquiry. For example, as we will see below, there was significant interest in the proposition of an immobile tenth heaven, the Empyrean, during Dante's time, also as a solution to difficulties connected with the doctrines of Aristotle regarding place that were brought to the surface by the condemnations of 1277. But more generally speaking, the intensity of speculative energy and commitment that Dante exhibits throughout his life and writings was inspired by a situation of intense ferment in the general cosmographical context, even as late as the *Questio de aqua et terra* (1320), to which we will return, a Scholastic treatise that Dante wrote near the end of his life on questions of earth science at the same time he was completing the last cantos of the *Paradiso*.

In fact, Dante's interaction with the contemporary context of cosmological debate and discussion continues to be the focus of research and debate among scholars. Dante's own positions on various questions of contemporary moment themselves reveal



remarkable development over time, from the vernacular *Convivio* to the Latin *Questio de aqua et terra*, from the so-called “*Rime petrose*” to the *Commedia*. These opinions regarded such problems as the order and the movement of heavens; the role and functions of the angels as celestial movers; and finally, the geo-physical makeup of the earth. Dante himself called attention to this developmental aspect of his cosmological inquiries most famously by correcting his picture of the structure of the angelic hierarchy in the transition from the *Convivio* (*Conv.* II, v, 5–7) to the *Commedia* (*Par.* XXVIII, 130–139). Indeed, the pilgrim’s journey through the heavens in the *Paradiso* takes the form of a cosmological bildungsroman, starting from Beatrice’s lesson on the cause of the dark spots in the moon in *Paradiso* 2 (Nardi 1967), which also corrects an erroneous explanation of Dante’s previously expressed in the *Convivio* [*Conv.* II, xiii, 9], and ending with her lectures delivered in the Primum Mobile about how time and space originate in the ninth heaven (*Par.* XXVII, 115–120; *Par.* XXVIII, 16–78), and how the whole cosmos came into being (*Par.* XXIX, 1–36). In a sense, to give an account of Dante’s cosmology is to trace an intellectual and poetic trajectory that, in the end, transcended all of the other philosophical and theological authorities of Dante’s time as regards the structure of the cosmos (Mazzotta 2005). For this reason, even within the space of a brief article, a developmental approach is to be preferred, starting with the state of the various cosmological questions at the stage of the *Convivio*, where Dante explicitly outlined for the first time many of the essential elements of his cosmology.

In the discussion of the order of the heavens in Book II of the *Convivio*, for example, Dante’s foregrounding of the tradition of cosmological debate served as a rhetorical means to establish his own authority in the field. He notes that “concerning the number and the position of the heavens many different opinions are held, although the truth has at last been discovered” (*Conv.* II, iii, 3); and begins by pointing out Aristotle’s errors. The Philosopher, in fact, held there to be only eight heavens, “and that beyond it there was

no other". He also calls attention to Aristotle's error in his ordering of the planets, for the Philosopher had held that the Sun came after the Moon and was second to Earth in the order of the planets. Dante instead follows Ptolemy, who had added in the second century AD a ninth heaven, the Primum Mobile, and established the correct order of the heavens, from bottom to top: moon, Mercury, Venus, Sun, Mars, Jupiter, Saturn, Fixed Stars or Starry Heaven, and the Primum mobile or Crystalline heaven. The ninth heaven was added by Ptolemy in order to account for the contrary movements of the heavens: on the one hand their diurnal motion east to west around the pole of the equator; and on the other, the slow movement of the planets from west to east at the rate of  $1^\circ$  every hundred years around the pole of the ecliptic, which is known as the precession of the equinoxes. Initially astronomers supposed that the eighth sphere, that of the Fixed Stars or Starry Heaven, was affected by both motions. But as Dante explains in the *Convivio* (*Conv.* II, iii), the idea that the eighth heaven should be subject to contrary movements, was felt to be inconsistent with the symmetry and simplicity of nature: "Ptolemy...constrained by the principles of philosophy", Dante writes, "which necessitated the simplest *primum mobile*, supposed that another heaven existed beyond that of the Fixed Stars which made this revolution from east to west". In fact, the reasons why Ptolemy added a ninth heaven were mathematical and astronomical, while the Neoplatonic philosophical motive Dante attributed to Ptolemy, that the many must be derived from the one, instead ultimately came from Alpetragius (Nur al-Din al-Bitruji, d. 1204), whose *Liber de motibus celorum* Dante accessed indirectly through the *De Coelo* of Albertus Magnus.

Dante's discussion of the tenth heaven, or the Empyrean, offers an opportunity to observe how the poet's cosmology emerged from a contemporary context of cosmological speculation in the *Convivio*, only to then transcend that context in the *Commedia*. In the transition from the treatise to the poem Dante reveals himself to be a cosmographer and a theologian of noteworthy originality. He