



26<sup>th</sup> October 2008  
23<sup>rd</sup> Sunday after Trinity  
Choral Evensong  
Job 9 vv. 1–10  
Romans 1 vv. 18–23



### Discerning the order of God's mind

By The Rev'd Canon Dr Charlotte Methuen

In November 1572, a bright light, which is now known to have been a supernova, appeared in the night sky in the constellation Cassiopeia. The supernova was visible from Northern Europe for the next sixteen months, a cause of wonder, not to say fear, to the many people who saw it and of attention and concern to astronomers and astrologers alike. This new celestial phenomenon is now known as SN 1572, “B Cassiopeiae”, or 3C 10, but often called *Tycho's Nova* to Tycho Brahe's study of it. In the 1570s it was variously described: as a comet below the moon, a comet without a tail above the moon, as a new “comet or star” placed either above or below the moon, as a *stella secunda* in the planetary sphere, or as a new star “in the sphere of the fixed stars”, or simply as an undefined *stella portentosa*. For almost all observers believed the nova – whatever they understood it to be – to be a portent of God: a warning of bad times to come; a proclamation to all Christendom; a portent of the end of the world.

In the late sixteenth century the dominant interpretative schema was still Aristotle's cosmology, which, apart from being geocentric (centred on the earth), taught that change could only take place in the sub-lunar sphere – that is, in the region between the earth and the moon. It is therefore not surprising that many of those who observed the nova believed that it had appeared below the moon: their physics told them that this must be the case. It is much more surprising that some sixteenth-century observers, despite the teachings of Aristotle, trusted their observations of its lack of parallax and placed the nova not only above the moon but in “the sphere of the fixed stars”.

Observers of the nova who believed it to contradict Aristotelian physics needed an authority for their beliefs, and most of them turned to God. These astronomers believed that God ruled the world but that God might at any time intervene in its running, for instance by sending a message in the form of a new celestial phenomenon. In the age of the Reformation, a time in which Scripture was being read with new attentiveness and recognised to have a new and immediate authority, passages such as Luke 21:11, proclaiming that before the end of the world “there will be great earthquakes, and in various places famines and plagues; and there will be dreadful portents and great signs from heaven” were taken very seriously. Many observers in 1572 were convinced that here was a dreadful portent and great sign from heaven, and the astronomer Prince William of Hesse-Cassel (who thought the nova was a star in the sphere of Venus) reported that he had written to his cousin, the Elector “that we believe this to be a sign that we should conduct ourselves as if in the Last Days”.

The contents of this paper are the views and expressions of the author.

The contents may not be used without the permission of the author, more information can be obtained from [chapel@joh.cam.ac.uk](mailto:chapel@joh.cam.ac.uk)

© Charlotte Methuen



26<sup>th</sup> October 2008  
23<sup>rd</sup> Sunday after Trinity  
Choral Evensong  
Job 9 vv. 1–10  
Romans 1 vv. 18–23

It was this conviction of God’s authority to intervene that allowed at least some observers of the 1572 nova to accept an observational conclusion which contradicted accepted Aristotelian principles of natural philosophy and cosmology.

Contemporary – that is sixteenth-century – interpretations of the nova of 1572 demonstrate the complex relationship between theological convictions and science – however we choose to define that in the sixteenth century. It was not easy for observers to move away from the accepted Aristotelian understanding of how the world was structured, but theological convictions about the created nature of the world could offer an authority for them to believe their observations and do so. Astronomers of this period who are beginning to argue that comets must be above the moon, such as Michael Maestlin who would later teach Johannes Kepler, quite often refer to passages such as those we have heard read this evening as a justification for their work. God, “who made heaven and earth, the sea, and all that is in them;” God “who seals up the stars; who alone stretched out the heavens ... who made the Bear and Orion, the Pleiades and the chambers of the south;” God, who stretched out the heavens, surely wants human beings to understand the heavens better. Psalm 19, which we didn’t hear tonight, asserts “The heavens proclaim the glory of the Lord.” The response of many astronomers in the time of the Reformation was to argue that a better understanding of the heavens would therefore lead to a better understanding of God. And indeed, many theologians agreed – at least in theory – that creation must reveal the nature of God. Did not Paul in his letter to the Romans affirm this to be the case: “Ever since the creation of the world God’s eternal power and divine nature, invisible though they are, have been understood and seen through the things he has made.” One problem for theologians was to determine the extent to which the fall had destroyed the abilities of human reason to recognise God through creation. Philip Melanchthon, Luther’s colleague, argued that human reason should seek to understand the order of the created universe, because it offered, not only a better understanding of the mind of God, but also an understanding of the order which God wanted for society: God who ordered the physical world also wanted order in the moral and political world: as Psalm 146 puts it, “God who made heaven and earth, ... who executes justice for the oppressed, who gives food to the hungry ... loves the righteous, ... watches over the strangers, ... upholds the orphan and the widow.” Although Melanchthon was not himself an observational astronomer, his work created a climate in which astronomers found themselves with theological authority for their attempts to acquire a better understanding of the heavens. (Similarly, anatomists found themselves with theological reasons for an accurate study of the human body, as another of God’s creations.) Johannes Kepler, who discovered three important laws of planetary motion without really noticing that he was doing so, believed that he was uncovering the underlying, divinely imposed structures and harmonies of the universe which would make it possible to transcend human differences – for instance about how to interpret scripture.

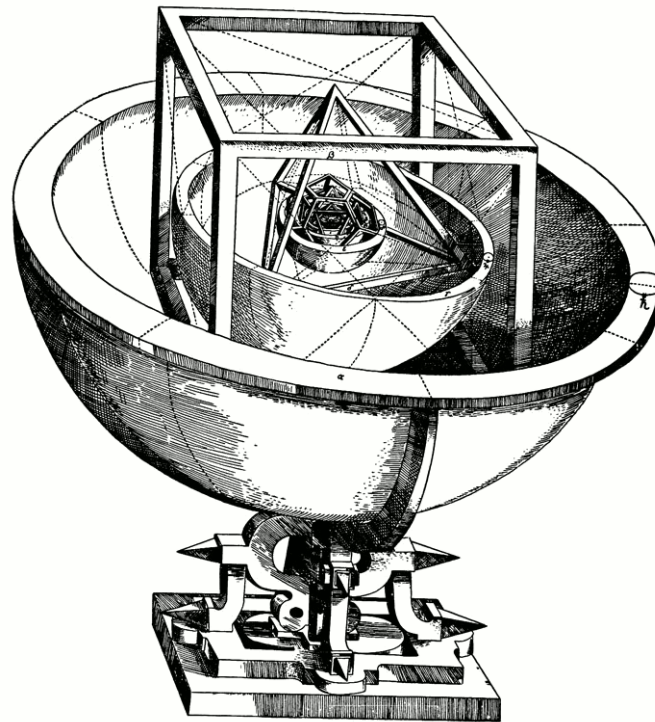
The contents of this paper are the views and expressions of the author.

The contents may not be used without the permission of the author, more information can be obtained from [chapel@joh.cam.ac.uk](mailto:chapel@joh.cam.ac.uk)

© Charlotte Metheun



26<sup>th</sup> October 2008  
23<sup>rd</sup> Sunday after Trinity  
Choral Evensong  
Job 9 vv. 1–10  
Romans 1 vv. 18–23



Kepler's understanding of the universe was Copernican, and heliocentric, rather than Aristotelian and geocentric. We would agree with him, and we would have good observational reasons for doing so, but in the sixteenth century there was very little observational reason to believe the heliocentric theory. It just – at least potentially – made the mathematics a lot easier. Astronomers sought other reasons for deciding between the two systems. Some argued that none of the systems on offer reflected physical reality but that all were mathematical constructs, but others were adamant that the universe was in reality heliocentric. Notably, in his first work, *Mysterium Cosmographicum* – the cosmographic secret – Kepler argued that Copernicus was right because a heliocentric universe made it possible to match the ratios of the orbits of the planets around the sun to the ratios of spheres drawn around the platonic solids; this he saw as *a priori* proof that the universe was created in this way. Later, writing on the harmony of the world, he explored how a heliocentric understanding of the universe mirrored God as Trinity. Kepler's espousal of the heliocentric hypothesis certainly had mathematical grounds, but it was also for profoundly theological reasons. As he wrote: 'We astronomers are priests of the highest God in regard to the book of nature.'

One problem with the heliocentric system, however, was that it seemed to contradict scripture. Passages such as Joshua 10:12-13 spoke of the sun standing still at God's command: "And the sun stood still, and the moon stopped, until the nation took vengeance on their enemies. ... The sun stopped in mid-heaven, and did not hurry to set for about a whole day." How could the Bible speak of the sun standing still if in the heliocentric system it was still in any case? The response of Kepler and other astronomers was to protest that the Bible was not designed to teach natural philosophy: psalms which spoke of creation should be understood as hymns of praise, not as descriptions of physical reality. Kepler even argued that Psalm 104 should be read as a commentary on the creation story, showing an understanding of scripture as interlinking texts. Kepler thought that a trained astronomer could obtain better knowledge of God's intentions for the world than the

The contents of this paper are the views and expressions of the author.

The contents may not be used without the permission of the author, more information can be obtained from chapel@joh.cam.ac.uk

© Charlotte Metheun



26<sup>th</sup> October 2008  
23<sup>rd</sup> Sunday after Trinity  
Choral Evensong  
Job 9 vv. 1–10  
Romans 1 vv. 18–23

reader of scripture, a text which had been accommodated to lower intellects. It is clear that such a reading would be acceptable to theologians, who generally saw scripture as the primary revelation. The scene was being set for the kind of conflicts between science and theology which led to the trial of Galileo and which still dominate some people's understandings of their historical relationship.

It is perhaps ironic that the use of theological, scriptural authority to counter the authority of Aristotle led in its turn to challenges of scriptural authority. In response, astronomers – and later exegetes – developed different approaches to scripture, which saw it as written in a particular time, place, worldview. On the whole, though, they did not give up on the idea that “the heavens proclaim the glory of the God”. Their wonder continued to inspire astronomers and natural philosophers to discover more about the way that God had created the universe and nature for a long time to come. Perhaps it still does.

Sermon starts here...