Introduction

In a period of about 300 years following Aristotle’s death in 322 BC, Greek culture spread as a result of Alexander the Great’s conquests (Hellenism). Alexandria in Egypt became the intellectual and cultural centre, and there science progressed from the speculative to the practical (Archimedes, Aristarchus . . .).

This Ptolemaic period - named after Alexander’s general Ptolemy who gained power over Egypt when Alexander died - came to an end with the death of Cleopatra in 30 BC, when the Romans took power. The prevailing Greek culture was treated with tolerance.

Birth of Christ

Jesus Christ was born in Roman-occupied Israel and grew up in a cultural climate where Greek was the language of the educated and wealthy classes. As Horace has put it, so strong was the Greek culture that ‘Vanquished Greece took her conqueror captive’.

In adulthood, Jesus rejected this Greek culture and established, in his local language of Aramaic, a religion for ordinary people living in harsh times. This religion was based on the scriptures of Jewish people of the area.

Philo of Alexandria (c. 20 BC - 40 AD)

Philo produced an important early synthesis of the Hebrew (Jewish) religious tradition with Greek philosophical thought.

Neo-Platonism

This was a spiritual re-interpretation of Platonic thought, with Plotinus (c. 205-270 AD) as the main figure.

It has the idea that there is a great order, consisting of many levels and kinds of existence, and that at the heart of all this there ‘the One’.

The cosmos is a result of divine emanation (a sort of radiation) from the One. The first emanation is the divine Mind/Intellect or Nous, a sort of universal wisdom (which contains the world of ‘ideas’).

From the Nous comes the World Soul from which, in turn, all living things (things of the world of the senses - eggs, stones, animals, humans ... ) get their souls. (In our discussion of Aristotle’s teleological philosophy, these would have been called ‘nous’.)

The World Soul is intermediate between the Nous and the material world.

Neo-Platonism had a big influence of the development of Christianity. One thing it did was provide a way of understanding the Judaeo-Christian vision, which was taking hold in the Greek cultural environment of the Roman world.
Although structurally similar, there is an essential difference: in neo-Platonism, all three are transcendental; in Christianity, through Christ, God has made direct contact with the imperfect world of the senses. This gives human history a spiritual - not just material significance.

What was transcendent in Greek philosophy has, in Christianity, become immanent.

‘And the word became flesh and dwelt among us …’ (John, chapter 1, verse 14.)

The Romans formally embrace Christianity (312 AD)

Emperor Constantine embraced the Christian religion (a landmark in human history), and from 380 AD Christianity was the official religion of the whole Roman Empire.

In 330 AD Constantine, threatened by ‘barbarians’ from the north and by disintegration from within, moves his capital to Constantinople, splitting the Roman Empire into two - the Eastern Empire and the Western Empire (which was soon to crumble).

St Augustine (354-430 AD; born in what is now Algeria)

Gave Christianity momentum; greatly influenced by neo-Platonism; but rejected the idea of universal soul which was an essential part of the vision of the world as a living creature.

He did, though, regard God as the source of Plato’s world of ideas.

One consequence of the influence of neo-Platonism on early Christianity was that a formal theology developed: the Christian religion became intellectualised, and had a very Greek (particularly Platonic) feel to it.

Plato’s Academy closed by Church (529 AD)

In the same year the Benedictines were founded.

St Thomas Aquinas (1225-1274 AD)

The Arabs had kept the Aristotelian tradition alive and this made its way to Northern Italy from Spain towards the end of the 12th century. The new Latin translations of works on natural philosophy renewed interest in the question of the compatibility of Christianity and Greek thought.

St. Thomas Aquinas was the greatest philosopher of this period. He argued that knowledge (in particular knowledge of God which was the main aim of learning at this time) can be gained from two sources:

- Reason - using information gleaned from the senses (Aristotle)
- Faith and Christian Revelation.
Both come from God, who cannot contradict Himself; so they must be in agreement.

Starting with these ideas, he incorporated disciplines such as the physics of Aristotle, the astronomy of Ptolemy and the medicine of Galen into a grand, hierarchical, philosophical system with the ‘queen of the sciences’, theology, at the top.

In the scheme of St Thomas Aquinas, everything had its place in a divine hierarchy. Animals ranged from lion, eagle and dolphin (the noblest creatures of land, air and sea) down to the lowly worm; minerals from gold down to dust; from the perfection of heaven (outside the celestial sphere) we descend, gradually, to the imperfect earth at the centre.

Here is a Christian Aristotelian Cosmos from *Cosmographia*, by Peter Apian (1524).
An Engraving of a Christian Aristotelian Cosmos from Peter Apian’s *Cosmographia*

We see earth, being the heaviest and most imperfect, is at the centre, surrounded by water. The imperfection of this sublunary sphere is represented by land showing above the waters. Next we have the spherical shells of air then fire, before we reach the celestial realm. This consists of nested spherical shells beginning with that of the moon (Luna) and ending with the *Coelum Empireum Habitaculum Dei et Omnium Electorum*, the Empyrean heavens, the dwelling place of God and all the elected ones), the perfect unchangeable layer. Here, the eternal Prime Mover of Aristotle has been replaced by the Judaeo-Christian creator God.

It was commonly believed that departures from this order were linked with disasters: ‘These late eclipses of the sun and moon portend no good to us.’ (Gloucester in Shakespeare’s *King Lear*; c 1605.)

Shakespeare is full of wonderful references to the Aristotelean world view.
LORENZO

Sweet soul, let’s in, and there expect their coming.
And yet no matter: why should we go in?
My friend Stephano, signify, I pray you,
Within the house, your mistress is at hand;
And bring your music forth into the air.

Exit Stephano

How sweet the moonlight sleeps upon this bank!
Here will we sit and let the sounds of music
Creep in our ears: soft stillness and the night
Become the touches of sweet harmony.

Sit, Jessica. Look how the floor of heaven
Is thick inlaid with patines of bright gold:
There’s not the smallest orb which thou behold’st
But in his motion like an angel sings,
Still quiring to the young-eyed cherubins;
Such harmony is in immortal souls;
But whilst this muddy vesture of decay
Doth grossly close it in, we cannot hear it.

(Merchant of Venice, Act 5, Scene 1; William Shakespeare, c 1595.)
BUT: the view had been growing, within the Church from the 13th century, that there was another way to gain knowledge of God - by examining His creation in detail: Nature cannot lie!

The scientific baby was kicking in the womb about three centuries before it was ‘born’.

**How did ‘science’ progress away from Aristotle?**

It is clear that, shortly after the time of St Thomas Aquinas, medieval theologians were beginning to question the authority of Aristotle.

- In Roger Bacon’s *Opus Maius On Experimental Science, 1266*, we find:
  
  ‘... I wish now to review the principles of wisdom from the point of view of experimental science, because without experiment it is impossible to know anything thoroughly.’

  This attitude towards nature, that we should handle it and study it, is compatible with a mental frame of mind that regards nature as good.

- In 1277 the Bishop of Paris issued a condemnation of propositions by Averroists (radical followers of Aristotle): one of these propositions stated that heavenly bodies could not be made to travel in straight lines.

  This seemed to imply that the Creator had limited powers.

- Shortly afterwards, the view began to emerge that a logical strictly mechanical universe could be seen as a manifestation of the power and intelligence of the Creator. Oresme (1323-1382), building on the impetus theory of John Buridan (1300-1358):

  God, when He created the world, moved each of the celestial orbs as he pleased, and in moving them He impressed on them impetuses which moved them without His having to move them anymore except by the method of general influence whereby he concurs as co-agent in all things which take place.

Freeman Dyson from the Institute for Advanced Study in Princeton argues that

‘It is probably not an accident that modern science grew explosively in Christian Europe and left the rest of the world behind. A thousand years of theological disputes nurtured the habit of analytical thinking that could be applied to the analysis of natural phenomena’.