

THE COSMOLOGY OF PLATO, c. 428-348 BCE: Notes Nick Campion

Life

Plato was born in 428/7 BCE in Athens. As a young man he was influenced by Heracleitus' argument that knowledge of the physical world is impossible because it is always changing, Socrates' dissatisfaction with existing attempts to explain the universe, and Pythagoras' emphasis on number. He is normally described as a political conservative, although he advocated the release of women from child-rearing duties. He grew up under the Peloponnesian War 431-404 BCE, in which Athenian power was destroyed, and experienced political disasters such as the rule of the thirty tyrants in 404 BC. He disliked democracy and his preferred form of political government was aristocracy - which he idealised as the rule of philosophers. He founded the Academy, the school at Athens which perpetuated his teachings, and died in 348 BCE. His most important student was Aristotle. Eudoxus, the astronomer, was also a student.

Plato's Significance

The most famous statement about Plato's thought is that the entire European philosophical traditions exists as a series of footnotes to it:

...So far as concerns philosophy only a selected group can be explicitly mentioned. There is no point in endeavouring to force the interpretations of divergent philosophers into a vague agreement. What is important is that the scheme of interpretation here adopted can claim for each of its main positions the express authority of one, or the other, of some supreme master of thought - Plato, Aristotle, Descartes, Locke, Hume, Kant. But ultimately nothing rests on authority; the final court of appeal is intrinsic reasonableness.

The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato. I do not mean the systematic scheme of thought which scholars have doubtfully extracted from his writings. I allude to the wealth of general ideas scattered through them. His personal endowments, his wide opportunities for experience at a great period of civilization, his inheritance of an intellectual tradition not yet stiffened by excessive systematization, have made his writing an inexhaustible mine of suggestion.¹

Influences on Plato

Plato was influenced by a series of previous philosophers, notably, as far as cosmology is concerned, Pythagoras. From Socrates, his teacher, he took the idea that the perfect life is the virtuous life.

Plato refers to Egyptian traditions of a primeval civilisation (Atlantis) and discussed Babylonian astrology and (respectfully) the Babylonian planetary deities (in the *Epinomis*). He would have been well aware of both Egyptian and Babylonian cosmology.

Plato's works

Plato's most important cosmological text is the **Timaeus**, named after one of the characters who appears in it. Critias, another character says that 'Timaeus is our

¹ Alfred North Whitehead, *Process and Reality* (London: Free Press, 1979), p. 39.

best astronomer and has made it his special task to learn about the nature of the universe' (Timaeus 27B). The **Republic** contains the Myth of Er, an account of reincarnation and fate, as well as an extensive discussion of politics and social organisation which is relevant to cosmology. The **Laws** and **Statesman** contains details of the idea state modelled on cosmological principles. The **Epinomis**, (subtitled Appendix to the Laws), which is always listed as having been written by Plato, but may have been composed by his secretary and student, Phillip of Opus, is the one explicitly astronomical treatise. The **Phaedo** and **Phaedrus** both contain extensive discussion of the soul, of relevance to the theory of knowledge. The **Phaedo** and **Phaedrus** help us to understand Plato's Theory of Recollection and his ideas concerning reincarnation. Particularly the **Phaedrus**, with the soul following the procession of the gods in the heavens before its first descent into a human body.

Plato's Idealism

The essence of Plato's cosmology is that the cosmos is created by God and animated by soul: the entire cosmos is therefore divine and physical form emerges from soul. The world soul (Latin *anima mundi*) may be considered the organising principle. From Heracleitus he adopted two modes of existence, **Being** (influenced by Parmenides' Way of Truth) and **Becoming** (influenced by Parmenides' Way of Seeming). God inhabits the world of 'Being', meaning that everything is in a state of eternal, changeless being. This world also contains the 'Ideas', 'Ideal Forms', or 'Types', the perfect models of everything in existence. These 'Ideas' are best described mathematically or geometrically. As the creation proceeded, physical form was created, becoming increasingly subject to change as it moved further away from God. Time came into being to allow change and could be measured by the movements of the stars and planets. The world occupied by changing, physical forms, including human beings, is the world of 'Becoming', in which everything is constantly becoming something else: it's a world of growth but, due to his inherent pessimism about the world and human nature, Plato tended to emphasise its corollary, decline.

Plato's philosophy is therefore 'Idealist' because he argued that 'Ideas' (we might say consciousness) underpins physical existence. Materialists, by contrast, believe that physical existence, i.e., matter, underpins consciousness.

The word "idea" in the above context can be a bit misleading. The original Greek used two words, *idea*, and *eidos* which mean roughly the same thing, an image. But they do not mean image in a superficial sense but rather as a complete comprehension of the essential being of a thing. In other words a Platonic "idea" is not a mental construct as we would have it, but a pre-existent essence, that which makes a thing exactly what it is as opposed to something else. The basic concept is that the essences which define things pre-exist any instances of the things themselves. This the essence of "treeness" pre-exists any actual tree (This was to be the exact opposite of Aristotle, who believed that "treeness" can only occur in conjunction with actual trees.)

The word *Idea* can also mean 'that which is responsible for' -i.e., a cause.

In the world of Becoming everything is in a state of change. We change from minute to minute, physically and psychologically. Our knowledge also changes. We forget some things and learn others. The Divine by contrast is unchanging.²

² Plato, *Symposium*, trans. W.R.M.Lamb, Cambridge, Mass., London: Harvard University Press 1914, 207C – 208B.

Where Plato refers to **Ideas** or **Forms**, later Platonic philosophers often referred to **Archetypes** (translated as 'earthly copies in *Phaedrus* 250B).

Essentialism

The notion that there is an underlying 'essence' that unites, orders or explains all the **phenomenal world** (that is, the world of phenomena which humans encounter) or the **sensational world** (that is, the world that humans experience through their senses) gives us the term **Essentialism**, as a description of all philosophies which make this assumption. A cognate term is **Substantialism**, based on the use of the term **substance**, rather than essence.

Motion

Motion is good, rest is not.

The soul is improved by study and thought.

Study and thought are motion.

I may add, that breathless calm, stillness and the like waste and impair, while wind and storm preserve; and the palmary argument of all, which I strongly urge, is the golden chain in Homer, by which he means the sun, thereby indicating that so long as the sun and the heavens go round in their orbits, all things human and divine are and are preserved, but if they were chained up and their motions ceased, then all things would be destroyed, and, as the saying is, turned upside down.³

Now shall I go on and mention to you also windless air, calm sea, and all that sort of thing, and say that stillness causes decay and destruction and that the opposite brings preservation? And shall I add to this the all-encompassing and crowning argument that Homer by the "the golden chain" refers to nothing else than the sun, and means that so long as the heavens and the sun goes round and everything exists and is preserved, among both gods and men, but if the motion should stop, as if bound fast, everything would be destroyed and would, as the saying goes, be turned upside down?⁴

There is a paradox, never satisfactorily resolved, between the theory of no-change = good and motion = good.

Knowledge

Knowledge based on observation or sense experience from the material world is changeable and hence unreliable (see above).

True knowledge is gleaned from abstract conceptions; as one looks at the sun's reflection in a bowl of water at the time of an eclipse, so one should avoid knowledge gleaned from sense experience. This does not mean, though that it is enough to gain knowledge from images.⁵

³ Plato, *Theaetetus*, trans. Benjamin Jowett, Indianapolis: The Library of Liberal Arts, 1949, 153, p. 14.

⁴ Plato, *Theaetetus*, trans. Harold North Fowler (Cambridge Mass., London: Harvard University Press, 1929), 153D.

⁵ Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 67A, p. 233. See also 76A, p. 265.

Memory and recollection. Use of images for this purpose.⁶

(Can we consider the heavens a 'perfect likeness of the thing recollected',⁷ i.e. God?)
(→ magic)

For a human being must understand a general conception formed by collecting into a unity the many perceptions of the senses; and this is a recollection of those things which our soul once beheld, when it journeyed with God and, lifting its vision above the thing as which we now say exist, rose up into real being.⁸

The individual will then recognise 'earthly copies' (**archetypes**) of justice and temperance.⁹

Knowledge is possessed before birth.¹⁰

Only philosophy gives true knowledge; 'the eyes and the ears and the other senses are full of deceit'.¹¹

Sense data is unreliable as we cannot tell whether we are asleep or awake.¹²

Employ pure absolute reason to secure knowledge, do not use eyes and ears.¹³

Naturalistic causes do not explain the ordering and motions of the planets.¹⁴

'the region above the heaven was never worthily sung by any poet'.¹⁵

'The initiate recognises the shining truth through sight, the sharpest of the senses.'¹⁶

6 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 99D-E, p. 343.

7 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 74A, p. 257.

8 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 249 B-C.

9 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 250 A-B.

10 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 75C-E p. 263-5.

11 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 83A.

12 Plato, *Theaetetus*, trans. Benjamin Jowett, Indianapolis: The Library of Liberal Arts, 1949, 157, p. 20.

13 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 66A.

14 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 98A.

15 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 247C.

16 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 250 B-251B.

He means an inner eye, the eye of the soul.¹⁷

One can turn one's self from the darkness of becoming to the light of being and the soul is then able to 'endure the contemplation of essence and the brightest region of being'.¹⁸

This then gives us a 'vision of the good'.¹⁹

'What is that which is Existent always and has no Becoming? And what is that which is Becoming always and never is Existent? Now the one of these [Being] is apprehensible by thought with the aid of reasoning since it is ever uniformly existent; whereas the other [Becoming] is an object of opinion with the aid of unreasoning sensation, since it becomes and perishes and is never really existent'.²⁰

Physical pleasure prevents s from seeing the good.²¹

→ Scepticism

See The Myth of the Cave: *Republic* Book VII.I-II

The philosophical life leads to happiness.²²

Piety:

'all men who possess even a small share of good sense call upon God always at the outset of every undertaking'.²³

Divination, Prophecy and Oracles

Distinction between

1. mantic/manic prophecy, product of frenzy/ inspired madness, e.g. oracles, and

2. augury, based on rational method, e.g. observation of birds and signs.²⁴

See Cicero.

17 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, 518 C-D.

18 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, 518 C-D.

19 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, 519D.

20 Plato, *Timaeus*, trans. R.G.Bury, Cambridge Mass., London: Harvard University Press 1931, 28A.

21 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, 519B.

22 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 256 A-B.

23 Plato, *Timaeus*, trans. R.G.Bury, Cambridge Mass., London: Harvard University Press 1931, 27C.

24 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 244.

1. is 'inspired', or 'natural', 2. is 'inductive'

See also *Phaedrus* 249D onwards on madness as Platonic love. Plato had Socrates say:

And of madness there were two kinds; one produced by human infirmity, the other was a divine release of the soul from the yoke of custom and convention. The divine madness was subdivided into four kinds, prophetic, initiatory, poetic, erotic, having four gods presiding over them; the first was the inspiration of Apollo, the second that of Dionysus, the third that of the Muses, the fourth that of Aphrodite and Eros.²⁵

Plato had the highest respect for the political advice received from the great oracles, mentioning specifically Delphi, Dodona or Ammon (note the Egyptian influence - Ammon was the Egyptian solar deity Amon or Amun, equated by the Greeks with Zeus: his oracle was in Egypt). He argued that such advice, whether from 'visions' or 'inspiration from heaven' should no more be altered than should rules derived from sacred numbers (*Laws* V.737E-738A).

He considered that inspired divination (*mantike*) was superior to augury (inductive divination), and that divine, prophetic madness was superior to sanity (*Phaedrus*, 244d 2-6). Furthermore, in *Symposium*, Plato emphasized that divination was about the maintenance of good relationships between men and gods:

Furthermore all sacrifices and the whole province of divination, which is the art of communion between gods and men - these, I say, are concerned with the preservation of the good and the cure of the evil love...²⁶

The Body

Is the seat of passion and desire. 'We are slaves to its service'.²⁷ It inhibits our search for knowledge.²⁸ True knowledge only possible after death or when we remove ourselves from 'intercourse and communion with the body'.²⁹ We must remain pure, 'for it cannot be that the impure attain the pure'.³⁰

²⁵ Plato, *Phaedrus*, trans. James H. Nichols, Ithaca: Cornell University Press, 1998, 244a.

²⁶ Plato, *Symposium*, trans. W.R.M.Lamb, Cambridge, Mass., London: Harvard University Press 1914. 188.d.

²⁷ Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 66C, p. 231.

²⁸ Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 82D-83A

²⁹ Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 67A, p. 233.

³⁰ Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 67A, p. 233.

Then we 'must be free from the body and must behold the actual realities with the eye of the soul alone'.³¹ Must practice 'self-restraint'.³²

The problem is that lustful and dishonest behaviour brings transient pleasures.³³
People who are drunk or in love are disgusting and disagreeable.³⁴

Death: the survival of the soul

'the true philosophers practise dying'.³⁵ Death is the separation of soul from body and the true philosopher should be prepared for it (possible that this notion (a) was derived from Egyptian practices and (b) was crucial theoretical influence on Hermeticism, Mithraism).

Also, the whole notion of acceptance of death by the philosopher, unlike the ordinary men, who are afraid of it = Stoic (Phaedo 67E)

Can be a rebirth – because soul can only be born again after death.³⁶

Only the philosopher and lover of knowledge and philosopher can enter into communion with the gods after death.³⁷

The virtuous/philosophical go to heaven after death, 'raised up into a heavenly place by justice', while the others go to the 'places of correction under the earth'.³⁸

Once the soul has begun its upward progress, it will not go down again.³⁹

Manilius: The souls of heroes travel to the stars.⁴⁰

31 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 73B-74A, p. 257.

32 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 67A, p. 233.

33 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 240.

34 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 240E

35 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 68C. See also 80C-D.

36 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 77D.

37 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 82C.

38 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 249 A-B.

39 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 256 D.

40 Manilius, Marcus, *Astronomica*, trans. G.P.Goold, Cambridge Mass., London: Harvard University Press, 1977, I.759.

Initiation

Phaedrus 250 B-C, 251 A-B.

A key passage for Mithraism etc?

The Creation

'God constructed the Cosmos as a Living Creature, one and visible, containing within itself all the living creatures which are, by nature akin to itself.'

Divine Reason.

Literally, the cycles of the stars and planets from day to day and year to year reveal the 'revolutions of Reason in the Heaven'.⁴¹

Consistency

Plato was clear that our knowledge of the universe is necessarily limited, so consistency is not an option, a notion he justified by reference to Socrates (*Timaeus* 29C). There may therefore be paradoxes which cannot be reconciled. For example, how can we each be responsible for our own actions while the universe is predetermined?

God and the Gods

God is best conceived of as a Creative Intelligence, a Mind and the source of Reason and Good (itself defined as stability and order) though is also referred to as 'Father' (*Timaeus* 28C, 41B, 42E). The gods and goddesses of the Greek pantheon are his servants, not unlike angels.

Plato accepted the standard cosmogony set out by Hesiod. For example, Earth was the 'first and eldest of all the gods which have come into being within the Heaven' (*Timaeus* 40C). He sets out the order of the birth of the gods and goddesses in *Timaeus* 40E.

As creator, God doesn't create matter *ex nihilo* (out of nothing) but brings order to existing chaos. (see the discussion by R.G. Bury in the introduction to the Loeb edition, p. 7)

Plato exposed himself to the charge of atheism because he failed to honour the traditional gods and instead focused on the divinity of the stars.

The Good

God is good.

The good man becomes like God and is rewarded after death.

"And shall we not agree that all things that come from the gods work together for the best for him that is dear to the gods, apart from the inevitable evil caused by sin in a former life?" "By all means." This, then must be our conviction about the just man, that whether he fall into poverty or disease or any other supposed evil, for him all these things will finally provide good, both in life and in death. For by the gods assuredly that man will never be neglected who is willing and eager to be righteous, and by the practice of virtue to be likened unto god, so far as that is possible for man." "It is reasonable," he said, "that such a one

41 *Timaeus* 47C.

should not be neglected by his like” “And must we not think the opposite of the unjust man? “Most emphatically.”⁴²

Even if unjust people benefit early in life, they sins catch them out late in life while good people are reaping their rewards in terms of wealth and prestige.⁴³

The Cosmos is moral

See below **The Soul, Reincarnation**

Astrology, Astronomy

Plato was aware of Babylonian astrology, which had spread throughout the middle east, including Egypt: the earliest known birth chart was cast in Mesopotamia when Plato was eighteen years old. Yet he makes only one explicit reference to astrology, arguing that it cannot work without a reliable mathematical model of the heavens (which is what he sets out to provide) and the means to measure this:

'But the choric dances of these same stars and their crossings one of another, and the relative reversals and progressions of their orbits, and which of the gods meet in their conjunctions, and how many are in opposition, and behind which and at what times they severally pass behind one another and are hidden from our view, and again re-appearing send upon men unable to calculate alarming portents of the things which shall come to pass hereafter, - to describe all this without an inspection of models of these movements would be labour in vain' (Timaeus 40C-D).

He is also, though dismissive of current astrology - it is for men who are 'unable to calculate' and thus cannot use mathematics and geometry as a vehicle for the perception of the Truth (i.e. God) through Reason. Whether he considered that this was a fatal flaw in astrology is not clear.

He does, though recommend the introduction of Egyptian and Babylonian astrology into Greece:

'when they [Syrian and Egyptian planetary gods] have spread abroad in every direction and in ours likewise, after the testing of thousands of years, nay of an infinite time. And therefore we should not hesitate to include them in the scope of our laws; for to say that some divine things should have no honour, while others should have it, is clearly a sign of witlessness' (Epinomis 987 A-B).

The earth is round: 'when seen from above (it) is said to look like those balls that are covered in twelve pieces of leather; it is divided into [patches of various colours of which the colours which we see here may be regarded as samples, such as painters use'.⁴⁴

42 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 613 A, p. 487.

43 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 613 B-D, p. 489.

44 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 110B.

As it is in the centre of the universe, it is held in place by its own 'equipoise', and the surrounding spheres.⁴⁵

Plato and Babylon

We don't know whether it was Plato himself who made the conversion from Babylonian to Greek names, but there is no reason why he shouldn't have done. He does after all, pay explicit tribute to the Syrian and also, incidentally, Egyptian, origins of astronomy, and recommend the introduction of astrology into Greece, even though he thought that the Greeks would naturally improve whatever the foreigners had started.⁴⁶ There is also some anecdotal evidence that Babylonian astrologers were visiting Greece by the late fifth century, and that Greek scholars were interested in Babylonian astrology, as one would expect from such inquisitive individuals.⁴⁷ It seems apparent then, that Plato observed the way in which Babylonian astrology was applied to political problems and realised that, in simple practical terms the Babylonians had far more knowledge of the heavens than the Greeks. He also believed that it required a sound philosophical basis and a much greater degree of systematisation. He was actually the first in a long line of western astrological reformers, of whom the last was Johannes Kepler, who reacted against what they saw as the chaos of the astrology inherited from the east. The result of every phase of astrological reform was a massive boost in astronomical research, the purpose of which was to refine and hone the practical application of astrology.

Plato's work was in many ways sympathetic to the Babylonian - he had a high regard for the use of oracles as an instrument of state and converted the Babylonian planetary deities into the Greek pantheon. Yet he regarded Babylonian astrology as inherently unreliable and argued that it could only be useful if it was based on proper Pythagorean, mathematical and geometrical principles. He shifted the emphasis away from the spontaneity required for true divination towards a sense of order. Indeed, all theories that the universe rests on an underlying invisible order may be described as Platonic. Astrology then became a means of identifying one's place in this order.

The Stars

The stars were composed of the same divine living material as the rest of the universe (Timaeus 30D)

In Timaeus 42A and 42D the stars are called 'organs of time'.

Time

Time came into existence with Heaven and if one comes to an end so will the other. However, while the 'original', i.e. Being, is eternal, the copy, i.e., Becoming, is measured by time. (Timeaus 38 B-C).

The Planets

45 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 108E-109A.

46. Plato, *Epinomis* 987A - B, E..

47. Waterfield, Robin, 'The Evidence for Astrology in Classical Greece', *Culture and Cosmos*, Autumn/Winter 1999, Vol. 3 no 2, pp. 3-15.

The planets were gods (Timaeus 41A) which God created in order to generate and measure time:

'Wherefore, as a consequence of this reasoning and design on the part of God, with a view to the generation of Time, the sun and moon and five other stars, which bear the appellation of "planets" [i.e., 'wanderers'], came into existence for the determining and preserving of the numbers of Time.' (Timaeus 38C).

The planets were placed in the following order: moon, sun, 'Morning Star' (Eospheros, or Venus), 'the star called Sacred to Hermes' or 'Star of Hermes' (Mercury), and, by inference (they were not named) Mars, Jupiter and Saturn. (Timaeus 38 C-D).

In Epinomis 987 B-C Plato first addresses the problem that the planets have no names and then goes on to give the names of Greek gods, suggesting that he was the first person to do this. The planet Venus was Lucifer of Hesperus and its goddess was Aphrodite, 'the Syrian lawgiver'. Mercury, which stayed closest to the Sun 'may well belong to Hermes', i.e., the god of escort (although in 986E he writes 'we cannot express [Mercury] in a name because it is not known', suggesting that it was exactly at this time that Babylonian astrology was being introduced). Ares (Mars), Zeus (Jupiter) and Kronos (Saturn) were also named.

Some say that Philip of Opus named the planets because of his likely authorship of the Epinomis. However, the fact that names appear in the Timaeus means that it is equally likely that Plato named them.

In later astronomical literature we have names that are not referred to divinities at all as Saturn = Phainon, Jupiter = Phaeton, Mars = Pyroeis, Venus = Phosphoros, and Hermes = Stilbon. These names were later superseded by the god names that we have now in Greek and in Latin.

The 'Harmony of the Spheres'.

In the Timaeus Plato adopted the Pythagorean doctrine that the distances between the planets and the earth are musical sequences. Using the sequences 1, 2, 4, 8 and 1, 3, 9, 27, the successive powers of 2 and 3 respectively, he assigned the distances 1, 2, 3, 4, 8, 9 and 27 to the moon, sun, Venus, Mercury, Mars, Jupiter and Saturn (Timaeus 35A-36B)

Each of the planetary spheres has a siren who is borne round on the sphere and sings one note as she does so. The total of eight notes makes a single harmony (Republic X.617B) The three Fates, or Moirae, sing in unison with the sirens. (X.617C).

Causation and Planets as Causes

All things must have a cause:

'Again, everything which becomes must of necessity become owing to some Cause; for without a cause it is impossible for anything to attain becoming'. (Timaeus 29A)

There are two kinds of cause. The 'Artificer' who created the 'most perfect God' (i.e., the cosmos), is the primary cause, the 'divine'. Other causes are 'necessary' (Timaeus 46D, 68E). Necessary causes cannot be primary because they do not possess reason.

The physical cosmos, i.e., the revolutions of the Same and Other, the planets and stars, are 'auxiliary' (or 'secondary') causes which 'God employs as his ministers in perfecting, so far as possible, the Form of the Most Good'. According to Plato, other

philosophers (i.e. Anaxagoras and the Atomists - materialists) assume wrongly that these things are primary causes. (Timaeus 46D, see also 47A). Auxiliary or necessary causes cannot be primary causes

Therefore, while the planets act as physical causes in terms of the manipulation of the four elements, this process is subordinate to the metaphysical causes emanating from God and the universe's divine, intelligent, rational nature.

The sun presides over the seasons and is the cause of all things in the visible world.⁴⁸

Causality after Plato

In Latin a *Res* was a thing, matter, affair, transaction- that is, it is process oriented. That is, an object is in a state of becoming.

A *Causa* was cause, reason, purpose, sake, excuse, pretext, opportunity, connection: i.e., it can be active - one causes something - or be the link between two things which describes their relationship.

Plato said that Formal Causes can exist by themselves.

Aristotle said that Formal Causes do not exist independent of their manifestation as Material Causes (although there is a certain loophole in *potentia*).

The Neoplatonists got round this by tying Forms to *Nous*, freeing them from the Material Cause.

'Fate' and 'Freewill'

The Universe came into existence as a compound of 'Reason', the attribute of God, and 'Necessity', the attribute of physical existence. (Timaeus 47E-48A) To give in to physical passion is to be subject to Necessity. To control such passions helps the individual return to Reason.

It's clear the incarnated souls choose their own lives and therefore cannot blame God, fortune or the gods for their misfortunes: 'The blame is he who chooses: God is blameless. (Republic X.617E; see also 619D).

See the Myth of Er (below)

Those who care for their souls and turn their backs on the demands of the body gain communion with the gods after death.⁴⁹

Souls choose their lives.⁵⁰

The 'Inner Cosmos'.

Not only is each person made of the same stuff as the cosmos, but they also contain the 'revolution of the same and the Similar within them. (Timaeus 42 C-D). This is the source of reason within each individual.

The Soul (psyche)

The whole cosmos is made out of the World Soul. It is all living and intelligent. But when the creation was complete, God made a soul for each star - there were the same

48 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, 516 C-B.

49 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 82B-D.

50 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 249 B.

number of souls as stars and each soul was linked to one star. He showed them [the souls] the nature of the Universe, and declared unto them the laws of destiny'. (Timaeus 41E-42A). When each soul is implanted in a star it must grow into 'the most god-fearing of living creatures'. When implanted into human bodies they must overcome their physical passions and needs in order to live justly.

Greek tradition held that the soul inhabited the underworld after death. Plato's identification of the soul's origins and final destination as the sky is one of Greek philosophy's most dramatic innovations.

Soul, considered collectively, has the care of all that is soulless, and it traverses the whole heaven, appearing sometimes in one form and sometimes in another. Now when it is perfect and fully winged, it mounts upwards and governs the whole world; but the soul which has lost its wings is borne along until it gets hold of something solid, when it settles down, taking upon itself an earthly body, which seems to be self moving, because of the power of the soul within it. The whole, compounded of body and soul, is called a living being, and is further designated as mortal.⁵¹

According to Van der Waerden:

It seems to me that we are here touching upon the deepest religious root of horoscope astrology. The soul comes from the heavens, where it partook of the circulation of the stars. It unites itself with a body and forms with it a living being. This explains how human character comes to be determined by the heavens.⁵²

Qualities of soul:

'Has the care of everything which is soulless'.⁵³

'Traverses the whole heaven'.⁵⁴

'Yearns for the upper region', i.e. heaven.⁵⁵

Love of wisdom.⁵⁶

Justice is the best thing for it and it needs to pursue justice whenever it can.⁵⁷

⁵¹ Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 246 b-c.

⁵² Van der Waerden, Bartel, *Science Awakening*, Vol II, The Birth of Astronomy, Leyden and New York: Oxford University Press, 1974, p. 147.

⁵³ Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 246 B-C.

⁵⁴ Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 246 B-C.

⁵⁵ Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 248 A-B.

⁵⁶ Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 612 A, p. 483.

⁵⁷ Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 612 B, p. 485.

Is ruler of the body.⁵⁸
Is a 'harmony'.⁵⁹

Soul/Psyche = Psychology

The soul contains manners, habits, opinions, desires, pleasures, pains or fears, 'ever abiding the same in his particular self', just as body is hair, skin, blood etc.⁶⁰

The structure of the soul is a matter of debate:

And then one might see whether in its real mature it is manifold or single in its simplicity, or what is the truth about it and how?⁶¹

Soul = like divine, immortal, intellectual, uniform, indissoluble, ever unchanging, visible.

Body = mortal, multiform, unintellectual, dissoluble, ever changing, invisible.⁶²

The soul resists contact with the body.

The body can corrupt the soul.⁶³

In *Phaedrus* the human being consisted of four different parts, the body and three part soul

1. the body

and then the soul, the Plato's image-laden text being interpreted to mean:

2. rational soul, mind or intellect, discerns what is true, judges what is real, makes rational decisions.

Now the divine intelligence, since it is nurtured on mind and pure knowledge, and the intelligence of every soul which is capable of receiving that which befits it, rejoices in seeing reality for a space of time and by gazing upon truth is nourished and made happy until the revolution brings it again to the same place.⁶⁴

58 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 93-4.

59 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 93-4.

60 Plato, *Symposium*, trans. W.R.M.Lamb, Cambridge, Mass., London: Harvard University Press 1914, 207E.

61 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 611 E, p. 483.

62 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 80B, D-E.

63 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 80B.

64 Plato, *Phaedrus*, trans H.N. Fowler (Cambridge Mass., London: Harvard University Press 1914) 246D.

The soul which 'follows after God and obtains a view of any of the truths is free from harm, until the next period.'⁶⁵

3. spirited soul, active, function: to carry out what reason has decided.

4. appetitive soul, emotion or desire, needs to be restrained.

Plato doesn't actually set it out like this. Instead he describes a chariot pulled by two horses.⁶⁶ Each of the three is a part of the soul.⁶⁷

If each person reconciles the body and parts of the soul, and these humans then cooperate, the state will function well (Republic 443D)

Plato's use of the word revolution, of course, is a reference to the revolution of the heavens, of the stars and planets. The passage in *Phaedrus* makes extensive use of motion and revolution

(Compare: Roger Penrose, Professor of Mathematics at Oxford University. Penrose's explanation for the manner in which mathematics allows for intellectual inquiry is instructive:

How is it that mathematical ideas can be communicated in this way? I imagine that whenever the mind perceives a mathematical idea, it makes contact with Plato's world of mathematical concepts...when one 'sees' a mathematical truth, one's consciousness breaks through into this world of ideas, and makes direct contact with it ('accessible via the intellect').⁶⁸

Was the soul embodied?

Plato's work has been read as a denigration of the body: the only thing that's real is the mind/soul.

However:

Plato is led by the urge toward perfection that he feels in his own body image to the realm of pure forms. This is not a theory of "ideas" in the modern sense but of forms that "catch the eye", those "visible forms" that can be seen with the eye of the soul and that remain suggestive of the bodily schema that gave them birth. The soul is an embodied idea, or the idea of a body. The implication of this, however, is to grant a greater reality to the soul as an idea (in the original

⁶⁵ Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 248 C.

⁶⁶ Plato, *Phaedrus*, trans H.N. Fowler (Cambridge Mass., London: Harvard University Press 1914) 246A. Also *Timaeus* 41D-E.

⁶⁷ Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 253 C-D. Also *Timaeus* 41D-E.

⁶⁸ Penrose, Roger, *The Emperor's New Mind: concerning computers, minds and the laws of physics* (London: Vintage 1991) p.554.

sense of plastic image), thus rendering the body a mere “phantom” of its ideal form.⁶⁹

Also, while the soul is transcendent (it precedes matter in existence), it is also in matter:

The soul, interfused everywhere from the centre to the circumference of heaven, of which also she is the external envelopment, herself turning in herself, began a divine beginning of never ceasing and rational life enduring throughout all time. The body of heaven is visible, but the soul is invisible, and partakes of reason and harmony, and being made by the best of intellectual and everlasting natures, is the best of things created.⁷⁰

Misery

Discussing the soul, Plato describes ‘its sufferings and the forms it assumes in this human life of ours’.⁷¹

The soul’s location in the body is to be compared to the sea god Glaucus who, though a god, appears to be mutilated, crushed and broken, more like a wild animal than what he is by nature. This is the effect that the countless evils of the world have on the soul.⁷²

‘And philosophy sees that the most dreadful thing about the imprisonment is the fact that the lusts of the flesh, so that the prisoner is the chief assistant in his own imprisonment’.⁷³

On the earth, ‘utmost toil and struggle await the soul’.⁷⁴

The region revealed through sight, i.e. Becoming, is a ‘habitation of the prison’.⁷⁵

69 Ferguson, Harvie, *Modernity and Subjectivity: Body, Soul, Spirit*, London: University Press of Virginia 1996, p. 85.

70 Plato, *Timaeus*, trans. Benjamin Jowett, The Internet Classics Archive, consulted at: <http://classics.mit.edu/Plato/timaeus.html> (See p., 11)

71 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 612 A, p. 483.

72 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 611 D, p. 483.

73 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 82E-83A.

74 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 247 B-C.

75 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, 517B.

The Creation of Humanity

God explained the principles of reincarnation to the individual souls so that he could not be held responsible for their behaviour. He then seeded souls in the stars and on the moon and ordered the young gods to create mortal bodies as perfectly as possible, given that they could still become the cause of their own misfortunes.

The Myth of Er

In the Republic Book X, Plato set out the rules by which reincarnation relates to the structure of the universe. The account was given through the words of a man called Er who had been killed in battle but had later revived having been dead for twelve days (614B).

1. The Structure of the Universe.

The whole universe spins on the 'spindle of Necessity' which extends outwards from the earth's poles. The planets are positioned on concentric spheres which enclose the earth and which rotate on the spindle of Necessity (616B-617D).

The earth is stationary at the centre of the solar system although it has been argued that Plato believed it oscillated (Timaeus 40B, p. 35 n 6, Aristotle De Caelo ii 293 b. 30).

2. The Fates

The three Fates, or Moirae, are daughters of Necessity. They sing in unison with the sirens who sing the harmony of the spheres (X.617C). Lachesis sings of the past, Clotho of the present and Atropos of the future.

(It is important to be aware of the etymology of the term moira. Moira was depicted by Homer as an allotted share of anything--meat, booty, land, years of life - that was arbitrarily distributed by Zeus. This concept was personified by Hesiod as the triple goddess Moira, the three Fates as spinners and weavers of human destiny. In fact the very word moira means a portion, part or allocation, as in the division of some whole that is allocated to some thing or some one in particular. Thus it may be argued that the basic core concept of fate in Greek is spatial. In this sense one's fate is not what is going to happen to one so much as it is what place in the scheme of things has been allotted to one. Of course, if we argue that time and space were inseparable then the distinction breaks down. Later on moira was also used to mean a degree of the zodiac.)

3. Reincarnation

Souls waiting to be reincarnated assemble before Lachesis. A 'prophet' then took from Lachesis' lap 'lots and patterns of lives'. These were then thrown on the ground and each of the souls had to pick up a lot. The prophet then revealed the possible patterns of lives, of which there were far more than the souls present. The souls then chose their lives; they were therefore absolutely responsible for the fortune or misfortune they were to encounter in their lives.

Each soul was then sent to Lachesis again to receive the 'genius' or 'daemon',⁷⁶ the 'guardian of his life and the fulfiller of his choice' (X.620D-E). This 'divinity' then led the

76. http://atheism.about.com/library/glossary/general/bldef_daimon.htm

daimon, n : one of the evil spirits of traditional Jewish and Christian belief [syn: devil, fiend, demon, daemon]. In ancient Greece (before 600 BCE), the term daimon refers generally to the gods or any personalized powers in non-human objects. After 600 BCE, however, people tended to follow the teachings of Pythagoras, which was that a daimon was the same as the psyche of humans - a person's spirit or even genius.
http://ancienthistory.about.com/library/bl/bl_daemon.htm

soul to Clotho who ratified the choice of life and finally to Atropos who spun the web of its destiny. The choice was then irreversible and the soul passed first under the throne of Necessity and then to the Plain of Oblivion where it slept by the River of Forgetfulness and drunk its water. In the middle of the night there was a great shaking and each soul wafted upward to its birth 'like a shooting star' (X.621.B). The fact that Er viewed all this from outside the planetary spheres (X.616.B), suggests that the soul passed through the planetary spheres to get to earth.

If a man lives justly then his soul will return to its star. If he lives unjustly he will be reincarnated as a woman, the inferior sex (Timaeus 42A-B. See also 91D-92C). If she then lives unjustly she will be reincarnated as whatever sort of animal most suits her bestial behaviour. These woes will not cease until the individual has yielded to the internal revolutions of the Same and the Similar and returned to Reason. (Timaeus 42B; see also 44 B)

Someone who indulges in gluttony, violence and drunkenness will be reincarnated as an ass, or similar, those who choose tyranny, injustice and robbery become wolves, hawks and kites.⁷⁷

Souls may path between man and beast and back, but a soul can never pass into a man unless it has seen the truth.⁷⁸

Justice and virtue are responsible for the rewards the soul receives after death.⁷⁹
Sin in a former life will cause evil in the present life, no matter how good the present life.⁸⁰

Plato's theory is similar to Buddhism; it contains 'obvious analogies' and also recalls Empedocles.⁸¹

The good man becomes like God and is rewarded after death.

"And shall we not agree that all things that come from the gods work together for the best for him that is dear to the gods, apart from the inevitable evil caused by sin in a former life?" "By all means." This, then must be our conviction about the just man, that whether he fall into poverty or disease or any other supposed evil, for him all these things will finally provide good, both in life and in death. For by the gods assuredly that man will never be neglected who is willing and

Daemon (Daimon) A term for a deity in general. By the time of Hesiod it referred to a subordinate of the higher gods.

77 Plato, *Phaedo*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 81E- 82A.

78 Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 249 B.

79 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 612 B-C, p. 485.

80 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 613 A, p. 487.

81 Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, p. 487, n h.

eager to be righteous, and by the practice of virtue to be likened unto god, so far as that is possible for man." "It is reasonable," he said, "that such a one should not be neglected by his like" "And must we not think the opposite of the unjust man? "Most emphatically."⁸²

Even if unjust people benefit early in life, they sins catch them out late in life while good people are reaping their rewards in terms of wealth and prestige.⁸³

In *Meno* 81B Plato claimed that 'certain priests' believed in reincarnation: Stillwell interprets these as Orphics.⁸⁴

The Ascent of the Soul

The Moment of Birth

Plato believed that every action, including birth, had its appropriate moment as measured by the relevant numbers and planetary positions. If birth took place at the appropriate moment society as a whole remained stable. If they took place at the wrong moments society as a whole declined. He did not specify astronomical positions for 'better' or 'worse' births. Instead, the last sentence in the following quote, he referred to the relevant 'number'.

'Not only for plants that grow from the earth but also for animals that live upon it there is a cycle of bearing and barrenness for soul and body as often as the revolutions of their orbs come full circle, in brief courses for the short-lived and oppositely for the opposite; but the laws of prosperous birth of infertility for your race, the men you have bred to be your rulers will not for all their wisdom ascertain by reasoning combined with sensation, but they will escape them, and there will be a time when they will beget children out of season. Now for divine begettings there is a period comprehended by a perfect number'.(Republic VIII, 546A-B).

Plato then sets out the code for this number, the so-called 'nuptial number'. The earliest extant account of it was given by Proclus (410-485CE). The accepted solution to Plato's code seems to have been 36,000 years, the period commonly given for precession of the equinoxes, though no detailed analysis was given until the 1890s.⁸⁵ The 36,000 year period was understood as the time it took for 'worse' births to dominate and thus destroy society. This was also stood as the Great Year (see below).

Also see the *Republic* X.618.D for types of birth.

⁸² Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 613 A, p. 487.

⁸³ Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, X, 613 B-D, p. 489.

⁸⁴ Plato, *Meno*, trans. W.R.M.Lamb (Cambridge Mass., London: Harvard University Press, 1937), 81B; Stilwell, Gary A., *Afterlife: Post-Mortem Judgments in Ancient Egypt and Ancient Greece* (New York: iUniverse Inc., 2005), p. 92.

⁸⁵ Adam, James, *The Nuptial Number of Plato*, London 1891; Adam, James, *The Republic of Plato*, Cambridge 1902.

See *Phaedrus* 248 D-E for nine types of birth.

1000 year periods in life of soul: *Phaedrus* 248E – 249B, *Republic* X 615A.

The Cosmic State

The Cosmic State is my term for any state which models itself closely on its views of astronomy and cosmology. Plato had no doubt that the organisation of the state and politics should be deliberately arranged to conform to the same mathematical principles which regulated the motions of the stars and planets. In the *Laws* (VI.771A-C, see also V.737E-738A), he argues that the principle number on which political organisation should be based is 5040, the 'tribal number'. This number is significant for two reasons:

1. as a moderate number it has the greatest number of divisors (59), including all numbers from 1 to 12 except 11;
2. of these the divisibility by 12 is crucial: 'Our whole number has twelve subdivisions, and the tribal number also has twelve; and each such portion must be regarded as a sacred gift of God, conformed to the months and to the revolution of the universe' (*Laws* V.771B).

The ideal state was to be governed by a Council of 360 members (*Laws* VI.756B-C), of whom thirty should govern for a month of thirty days at a time (*Laws* VI.758B; thirty days was one lunar cycle (*Epinomis* 978E-979A). The method of appointment of priests and priestesses, partly by election, partly by lot (i.e., divine appointment) is outlined in *Laws* VI.759 (Aristotle criticises this in the *Politics*, 1265a5).

The nature of the state and the character of its citizens are interconnected:

'Is it not then...impossible for us to avoid admitting this much, that the same forms and qualities are to be found in each one of us that are in the state? They could not get there from any other source'. (*Republic* 435E).

Correct social organisation is essential. If, for example, couples marry (and presumably conceive) 'unseasonably', they will give birth at the wrong time and society will decline (*Republic* VIII, 546.C). (see above, The Moment of Birth).

The Great Year

In the *Timaeus* (39D) Plato talks of the 'Complete Year' in which 'all eight circuits', i.e., the seven planets and the fixed stars, 'finish together', i.e., return to the points they occupied at the creation.

'The complete number of Time fulfils the Complete year when all the eight circuits with their relative speeds, finish together and come to a head, when measured by the revolution of the Same and the Similarly-moving'.⁸⁶

A complete mythology developed from this idea which has the world experiencing periodic destructions when all the planets meet in a conjunction.

This idea entered the Greek world from Egypt. Plato tells how the Athenian statesman Solon (c.640 - after 561 BCE) visited Egypt, he was told by an old priest,

⁸⁶ Plato, *Timaeus*, trans. R.G.Bury, Cambridge Mass., London: Harvard University Press, 1931, 39D.

"O Solon, Solon, you Greeks are always children: there is not such a thing as an old Greek". And on hearing this he asked, "What do you mean by this saying?". And the priest replied, "You are young in soul, every one of you. For therein you possess not a single belief that is ancient and derived from old tradition, nor yet one science that is hoary with age. And this is the cause thereof: There have been and there will be many and divers destructions of mankind, of which the greatest are by fire and water, and lesser ones by countless other means. For in truth the story is told in your country as well as ours, how once upon a time Phaethon, son of Helios, yoked his father's chariot, and because he was unable to drive it along the course taken by his father, burnt up all that was upon the earth and himself perished by a thunderbolt, - that story, as it is told, has the fashion of a legend, but the truth of it lies in the occurrence of a shifting of the bodies in the heavens which move round the earth, and a destruction of the things on the earth by fierce fire, which recurs at long intervals.' (Timaeus 22B-D).

(Plato then gives the earliest account of the Atlantis legend, Timaeus 24E-25D)

I explore the idea of periodic catastrophes in detail in my book *The Great Year* (Penguin-Arkana 1994). One immediate consequence was that, if planetary movements warned of the coming catastrophe, their study was a political and social necessity. As we'll see below. Though, Plato had problems with the study of astronomy itself. Rather, he believed that if the mathematics which regulated the heavens were incorporated into political organisation, stability could be maintained and decline resisted.

The notion became a common place in the classical world and was widely discussed. For example, Cicero:

On the diverse motions of the planets the mathematicians have based what they call the Great Year, which is completed when the sun, moon and five planets all having finished their courses have returned to the same positions relative to one another. The length of this period is hotly debated, but it must necessarily be a fixed time.

(Cicero, *De Natura Deorum*, trans. H.Rackham, Cambridge Mass.: Harvard University Press, London, 1933, 173)

The Four Elements and Solids

Plato believed that all physical things were made of mixtures of the four Empedoclean solids, fire, air, earth and water. Very significantly for later cosmology, Plato related the elements to the four physical solids that could be created from triangles (Timaeus 55A-C). He also related the elements to the four types of creature (Timaeus 39E-40A)

Fire = tetradhedron (pyramid), gods

Air = octahedron, birds

Water = icosahedron, fish

Earth = cube, animals, including humans.

Plato himself did declare that the fifth of the solid shapes on which the cosmos was based was the twelve-sided dodecahedron, which he considered to be the most perfect because it was closest to the sphere and so used by God to decorate the Universe; the modern assumption is that he meant the zodiac signs or constellations.⁸⁷

⁸⁷ Plato, Timaeus 55C. Bury, p. 134, n. 1 assumes that the dodecahedron represents the zodiac signs and Lee, p. 78, constellations.

The Zodiac?

Nowhere does Plato mention the zodiac (**except see above, p 134, n 1**). However, in the *Phaedrus* 246E-247A the gods are divided into twelve groups and in 262E-D 'each man lives after the pattern of the god of whose chorus he was a member'. NOTE: THIS REFERENCE IS INCORRECT

Zeus drives his chariot through the sky followed by eleven squadrons, each including one of the twelve great gods.⁸⁸

Astronomy teaches mathematics and stimulates the intelligence

'The most important benefit...bestowed on us' by the planets is the fact that by observing them we can learn about the nature of the universe.

'But as it is, the vision of day and night and of months and circling years has created the art of number and has given us not only the notion of Time but also means of research into the nature of the Universe...God devised and bestowed upon us vision to the end that we might behold the revolutions of Reason in the Heaven and use them for the revolutions of the reasonable that is within us'. (*Timaeus* 47B-C)

In the *Epinomis* we read that

'And so the heaven, revolving these very objects for many nights and many days, never ceases to teach men one and two, until even the most unintelligent have learnt sufficiently to number' (978D).

In the *Republic* Plato writes that

"It is by means of problems", then, "said I, "as in the study of geometry, that we will pursue astronomy too, and we will let be the things in the heavens, if we are to have a part in the true science of astronomy and so convert to right use from uselessness that natural indwelling intelligence of the soul"

Once a human being has emerged from the cave (*Republic* book VII), he will begin to 'contemplate the appearances of heavens and heaven itself' at night and then progressively begin to see reality, rather than reflections of it'.⁸⁹

'the ascent and the contemplation of the things above is the soul's ascension to the higher intelligible regions'.⁹⁰

The Sacred Calendar

Observation of the sacred calendar was central to the secure and ordered functioning of the state. Plato set down the perfect education for the good citizen. This included enough mathematics to understand the motions of the sun, moon and stars in order to calculate the calendar 'so that the seasons, with their respective sacrifices and feasts,

⁸⁸ Plato, *Phaedrus*, trans H.N.Fowler, Cambridge Mass., London: Harvard University Press, 1914, 247A.

⁸⁹ Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, 516B.

⁹⁰ Plato, *Republic*, 2 Vols, trans. Paul Shorey, Cambridge Mass., London: Harvard University Press 1937, 517B.

may each be assigned its due position by being held as nature dictates, and that this they may create fresh liveliness and alertness in the State, and may pay their due honours to the gods, and may render the citizen more intelligent about these matters' (Laws VII.809C-D). He later added that the fact that the 'wanderers', i.e., planets, follow such erratic courses reinforces the need to understand celestial motions, pray reverently at the proper times and avoid blasphemy (Laws VII.821B-D).

The study of astronomy leads to belief in the gods.

Plato argued that the celestial harmony of the universe points to the existence of the gods (Laws X.886A), an argument similar to the 'argument from design': God must exist because the universe is so incredible that somebody has to have designed it. He repeats the argument later (Laws XII.966E-967C), apparently countering critics who had argued that the study of astronomy leads to atheism. He argued that such people made the mistake of believing that 'all things come into being by necessary forces and not by the mental energy of the will aiming at the fulfilment of good' (967A). He says that charges of atheism, though, have been caused by materialist philosophers who thought that the stars were lifeless lumps or rock, rather than divine beings animated by soul. In the Republic (VII.xi.C-D) he writes that astronomers are likely to 'concede that the artisan of heaven (i.e. God) fashioned it and all that it contains in the best possible manner for such a fabric'.

Plato's insistence on this point may be a defensive posture resulting from the fact that one of the charges made against his teacher Socrates, who was executed in 399 BCE, was that he denied the existence of the gods.

Plato on the Soul

1. The state is animated by soul. In the Republic Plato writes:

'Must we not acknowledge, I said, that in each of us there are the same principles and habits which there are in the State; and that from the individual they pass into the State? -- how else can they come there? Take the quality of passion or spirit; -- it would be ridiculous to imagine that this quality, when found in States, is not derived from the individuals who are supposed to possess it.' **reference needed**

In this passage we begin to understand the concept of an inanimate object becoming animate or filled with spirit. For example, a business is an inanimate object, a legal entity and a building. What brings it to life is the spirit of the people who work for the business. Through the combined spirit of its employees and owners, the company takes on a spirit of its own. Inanimate objects or invisible concepts are merely ensouled or alive because of the energy or spirit that, in this case the spirit of man, infuses into them.

2. There are two types of soul, a belief which was to be very important in the Middle Ages. Also from the *The Republic* Plato speaks of the irrational and the rational part of the soul:

Then we may fairly assume that they are two, and that they differ from one another; the one with which a man reasons, we may call the rational principle of the soul, the other, with which he loves and hungers and thirsts and feels the flutterings of any other desire, may be termed the irrational or appetitive, the ally of sundry pleasures and satisfactions. **reference needed**

The rational part of the soul knows what is right and acts in the best interest of the individual. And the irrational or “appetitive” part of the soul seeks pleasure for its own gain. The third aspect of the soul, called spirit, animates the soul into action for good or ill, depending on whether the rational or irrational part of the soul is acting. In the most ideal situation, man self-corrects, is aware of his irrational nature and still chooses by free will to do the right thing. As the soul is eroded and engages more and more in the irrational part, this task becomes more difficult. The concept of spirit will be further explained later.

The correct way to study astronomy.

Plato devotes a substantial part of The Republic book VII to a discussion of the study of astronomy. In this he isolates a key problem of astronomy - that although the stars are 'the fairest and most exact of material things', and therefore worthy of study, they are nevertheless physical and 'fall far short of the truth' (529.xi.C-D). The stars can therefore be understood only 'by reason and thought but not by sight'. Astronomy was therefore primarily a theoretical discipline in which reasoned speculation was more important than direct observation.

Problems arising from Plato's thought for astronomy

Plato's belief that theoretical astronomy was superior to observational presented problems for western astronomy which were not solved until the early seventeenth-century. In his Pythagorean logic the cosmos is a sphere, the most perfect solid, and the planets must therefore move in perfect circles, the most perfect direction to travel. However, it is clear to any observer that the planets speed up and slow down, move north and south and even reverse their direction. Plato ignored this, giving his 'Athenian Stranger' the words 'The opinion my friends, that the Sun and Moon and the rest of the stars "wander" is not correct; the truth is precisely the opposite: each of them always travels in a circle one and the same path'. For the next two thousand years western astronomers, until Johannes Kepler in the 1610s, had to perform all sorts of mathematical tricks to make their observations of planetary motions conform to Plato's theory. When the challenge to Plato's planetary theory eventually came, it was to be a factor in the decline of astrology's entire credibility, although in fact the actual nature of the paths taken by the planets has little to do with the truth or falsity of astrology.

Implications of Plato's work for astrology

Although Plato made only the one specific mention of astrology we can draw the following arguments for and against astrology from his work. There is no standard Platonic position, partly because he set out writings in terms of dialogues between opposing characters and in places his own view it is not always clear. The first great critic of astrology in the Greek world was Carneades (c.213-c.129 BCE), the founder the 'Third' or 'New' Academy, a successor to Plato's school. The Roman writer Cicero refers to the Old Academy's (the original school founded by Plato) faith in the gods, but the 'praiseworthy tendency of the New Academy to doubt' in *De Divinatione*, composed in the first century BCE.⁹¹

1. For

- a. contemplation/study of the stars leads to God.
- b. the stars and planets are both divine in themselves and closer to God than is humanity.

91. Cicero, *De Divinatione* I.iii.5-6

- c. before birth the soul descends through the planetary spheres: the planets' disposition at birth should therefore indicate one's destiny in this life.
- d. the stars, planets and humans are all made out of the same physical substance and partake of the same divine spirit: the movements of the stars and planets must therefore reflect /indicate movements on the earth.
- e. in the Republic Plato deals with the subject of better and worse births. He did not link this to astrology but the mere existence of his discussion may have been taken into account in the later development of natal astrology, a question which requires further investigation.
- f. the planets were chronocrators, the 'keepers' or 'markers' of time.

2. Against

- a. the regulation of planetary motions by mathematical principles restricts the freedom of the planetary deities to intervene in human affairs (the same problem was implicit in Babylonian astrology but never seems to have been addressed).
- b. it deals with the observable, physical stars and planets of the world of Becoming, and cannot therefore yield truth, only falsehood.

For where things are discerned at intervals of time, there is falsehood; and where things have an origin in time, there errors arise. (Asclepius III.32b in Scott, Walter, trans. *Hermetica: the Ancient Greek and Latin Writings which contain Religious or Philosophic Teachings ascribed to Hermes Trismegistus*, Boulder: Shambala 1982, Vol. 1, p. 357).

- c. at birth the divine soul is imprisoned in the world of matter (an idea that Plato may have taken from Pythagoras and through him from Orphic religion, Kirk, p. 221) and the planets are like the prison bars: astrology can therefore only be evil (this view was to be very strong amongst the Hermetic thinkers (who we'll deal with in week 10).
- d. After the first century CE Christians objected to the notion that the stars and planets are gods, and hence to astrology.

Although it's a fair reading of Plato that, as astrology was based on the observation of the natural phenomena of the world of Becoming, it was therefore an inherently inferior discipline, it's also implicit in Plato's work that one could instead take a more 'theoretical' approach. Within Platonism a way is left open for an astrology which is far more to do with the mind and the cultivation of prudent behaviour and a disciplined lifestyle.

History of the Platonic Academy

1. Old Academy, founded by Plato, to 265 BCE.
2. Middle Academy, initiated by Arcesilaus (or Arcesilas), c. 265 BCE, influenced by Scepticism.
3. New Academy, initiated by Carneades (d.129 BCE), development of scepticism.
4. Library destroyed by Sulla in 86BCE in Roman sack of Athens; broke link with Plato; Antiochus of Ascalon, head of 'fifth Academy', 86-68 BCE, scepticism abandoned, common themes of Plato, Aristotle and Stoicism emphasised.
5. Little known from 1st to 4th c.
6. 5th c - Proclus - neoPlatonism.
6. Closed 529.

Other references.

Discussion of names and motions of planets in Laws VII821B-D, 822A.

Structure of the heavens: the stars are 'sparks that paint the sky...decorations on a visible surface'.

'this is the nature of the stars, fairest to see, and passing along, dancing the fairest and most magnificent of all dances in the world, they perform their service to all living creatures'. *Epinomis*. 982 E

Plato's Historical Importance: the Ancient World

It has been said that all European philosophy is a footnote to Plato and his pupil, Aristotle. This is certainly true of most western astrology. Plato exerted a profound impact on astrology and astral religion around the time of Christ through the Hermetic teachings and in the late Roman Empire through the Mithraic religion as well as through the Neoplatonists, Plotinus, Porphyry and Proclus (who we'll study in week 10).

For example, in the *Almagest* (c.120 CE) Ptolemy wrote:

With regard to virtuous conduct in practical actions and character, this science [astronomy], above all things, could make men see clearly; from the constancy, order, symmetry and calm which are associated with the divine, it makes its followers lovers of this divine beauty, accustoming them and reforming their natures, as it were, to a similar spiritual state.⁹²

Astronomy was thus, above all, a discipline with a moral and political purpose: to fulfil Plato's goal of elevating the human spirit and maintaining political stability. In addition, it was the means by which, in purely physical terms, the 'corruptible' from the 'incorruptible'.

Ovid *Metamorphoses*, Book 1, lines 97 - 114.

<http://www.ovidio.org/book1.txt>

"But one more perfect and more sanctified,
a being capable of lofty thought,
intelligent to rule, was wanting still
man was created! Did the Unknown God
designing then a better world make man
of seed divine? or did Prometheus
take the new soil of earth (that still contained
some godly element of Heaven's Life)
and use it to create the race of man;
first mingling it with water of new streams;
so that his new creation, upright man,
was made in image of commanding Gods?
On earth the brute creation bends its gaze,
but man was given a lofty countenance
and was commanded to behold the skies;
and with an upright face may view the stars:--
and so it was that shapeless clay put on
the form of man till then unknown to earth."

Plato was a great influence on Christianity through St. Augustine, 354-430 AD. His distinction between the physical world of Becoming and a heavenly world of Being was naturally attractive to many Christian thinkers and Augustine identified Plato's Ideas with the mind of God. It has been argued that one definition of evil, for Augustine, was the absence of knowledge, a definition any Platonist would understand. In spite of the

92. Ptolemy, Claudius, *Almagest*. I.1, trans. G.J. Toomer, Princeton University Press 1998.

fact that Plato's philosophy allowed for polytheism, especially the existence of astral deities, Christian readings of his theory that there was a single point of creation encouraged Augustine to think of Plato as coming close to being Christian and the Platonists as the only pagan philosophers with whom Christians might discuss theological questions (see the *City of God*, book VIII, esp. chapters 5-12). Augustine also considered that virtuous pagans might be favoured by God - thus the virtue of republican Rome encouraged God to increase the Roman empire (*City of God* book V chapter 17). He did, though seriously oppose some aspects of Platonic cosmology, such as that the soul of the world was the body of God, an impossible proposition of which we conclude that it means that human beings would be walking on the body of God (*City of God*, book IV, chapter 12). Another of the most influential of early Christians, Origen (c.185-c.254 AD) studied with Ammonius Saccas, the founder of Neoplatonism, twenty years before Plotinus.

Plato in the Medieval World

From around 500 CE, western and eastern Europe began to diverge culturally. In the west (Spain, most of Italy, France, the British isles and (until the Islamic conquest) north Africa outside Egypt) Latin was the language of international communication, ecclesiastical authority was based in Rome (the emerging Catholic church) and Roman civil society and structures decayed.

In the east (the Balkans, Asia Minor and (until the Islamic conquests), the Middle East and Egypt), Roman political and civil structures survived, ecclesiastical authority was based in Constantinople and Greek remained the language of both educated and daily communication.

The boundaries between the two cultural zones were not exact: Greek control persisted in southern Italy and Sicily until around the eleventh century and church authorities in Rome and Constantinople were in close contact.

However, the result was that, in the Latin speaking areas, knowledge of Greek literature, and therefore Greek cosmology, went into serious decline. The consequence was that, until the 1450s, Plato's work was known only through a partial Latin translation of, and commentary on the *Timaeus* by the fourth century Christian scholar Calcidius.⁹³ This consisted of around half (up to 53C) of the total work, but that half contained the core of Plato's theory about the creation and physical and psychic structure of the cosmos. Platonic thought would also have been known indirectly via Christian writings.

Plato's theory of the soul's journey to the stars was known from Macrobius' 5th century commentary on Cicero's 'Dream of Scipio' (from Cicero's *Republic*, 1st c BCE).

Plato's belief that Reason was the path to God generally reinforced the Christian cosmology of the times, which assumed that faith was the route to knowledge: neither required actual physical evidence to demonstrate any theory. The rise of the Cathedral Schools in 11th and 12th century Europe provided a vehicle for the renewed study of Plato, particularly at the school of Chartres. In the twelfth century, inspired by the *Timaeus*, Bernardus Silvestris wrote the *Cosmographia*, an account of the creation which relied on Plato to flesh out the creation story in Genesis and adopted certain Platonic ideas, such as the infusion of soul throughout the universe.⁹⁴

⁹³ See the manuscript at

<http://image.ox.ac.uk/show?collection=bodleian&manuscript=msdigby23a>

⁹⁴ Bernardus Silvestris, *Cosmographia*, trans and ed. Winthrop Wetherbee, New York: Columbia University Press 1973.

The principles of Platonic geometry were also widely applied to medieval Church architecture.⁹⁵

In 1543 Nicolaus Copernicus, who demonstrated that the earth orbits the sun, referred to Plato as both political and moral justification for his study of astronomy:

Plato makes an extremely good point, for in the seventh book of the *Laws* he says that this study should be pursued in especial, that through it the orderly arrangement of days into months and years and the determination of the times for solemnities and sacrifices should keep the state alive and watchful.⁹⁶

Copernicus went on to quote Plato to the effect that astronomy is the highest study for the learned, and essential for anyone who wishes to become 'godlike'.

The Seven Liberal Arts

It has been argued that the seven Liberal Arts, the basis of medieval education, are derived from the schools of Plato and his contemporary, Isocrates. The 'Quadrivium', consisting of geometry, arithmetic, music and astronomy, was based on the educational priorities outlined by Plato. The 'Trivium', consisting of grammar, rhetoric and logic, was based on the programme set out by Isocrates, who founded his Academy in Athens in 393, six years before Plato founded his.

The Renaissance: 15th-17th centuries

Plato's complete works were translated in the mid-fifteenth century by Marsilio Ficino (who we'll study in term 2) and contributed to a revolution in European astrology. The Myth of Er, a parable for the idea that 'reality is an illusion underpinned by a deeper, invisible reality became one of the most influential Renaissance myths. John North writes that 'it would be hard to find a humanist scholar of note...who did not refer to it' in the sixteenth century.⁹⁷

The last phase of the Renaissance, now known as the 'Early Modern' period, saw a revival of Platonism in England. The 'Cambridge Platonists' addressed the problems of the rise of low-church 'enthusiasm' (i.e. radical Puritanism and Calvinism), the increasing influence of the 'Godless' philosophy of Thomas Hobbes and the declining prestige of Aristotelian logic and science and the rising materialistic scientific world view. Their solution was an increased reliance on Plato, including a general sympathy with mysticism (including the individual's moral and mystical ascent to God), a belief that ethics rests upon absolute standards of right and wrong which can be discerned by human reason independent of divine revelation and faith and an insistence that the intellect is active and exists independently of materialist influences. The leading members of the group were Benjamin Whichcote (1609-1693), Ralph Cudworth (1617-1688), Henry More (1614-1687)⁹⁸, a major influence on Isaac Newton's theology.

95. Hiscock, Nigel, *The Wise Master Builder: Platonic Geometry in Plans of Medieval Abbeys and Cathedrals*, Aldershot: Ashgate 2000.

96. Copernicus, Nicolaus, *On the Revolutions of the Heavenly Spheres*, trans. Charles Glenn Wallis, Amherst, New York,: Prometheus Books 1995, I.1, p 8.

97. North, John, *The Ambassadors' Secret: Holbein and the World of the Renaissance*, London and New York: Hambledon and London 2002.

98. Hall, A. Rupert, *Henry More: Magic, Religion and Experiment*, Oxford: Basil Blackwell 1990.

Cudworth's major works were *The True Intellectual System of the Universe* (1678) and *A Treatise Concerning Eternal and Immutable Morality* (1731).

There was a further impetus given to Platonism at the end of the eighteenth century by Thomas Taylor, who translated Plato's works into English, along with the works of Neoplatonic philosophers such as Plotinus and Porphyry.

The Modern World

The greatest philosophical influence on twentieth century astrology was arguably C.G. Jung (who we'll study in term 3) who himself was a Platonist.

However, Plato continues to be regarded as a highly influential figure in philosophy as a whole. In particular, there is a theory that Plato is the intellectual ancestor of modern totalitarianism. This theory is bound up with arguments concerning Socrates, Plato's teacher. Socrates was executed for opposing democracy because he had asserted his individual rights against the well being of the community. However, some nineteenth-century thinkers decided that he was in fact a hero of democracy - for the same reason (the definition of democracy having changed!). Socrates' supposed anti-democratic instincts were then transferred to Plato.⁹⁹ The strongest proponent of this argument is the twentieth century political thinker and philosopher of science, **Karl Popper** who saw Plato's ideal government of philosophers as the ancestor of modern governments based on small groups of people who believed they had a unique access to the truth and were on the side of historical destiny - in particular communists.¹⁰⁰ He described such societies as 'closed' as opposed to the 'open' societies of liberal democracy.

The Plato of the *Laws* is also influential amongst the American Neoconservatives. The Neocons' founding father is Leo Strauss, whose reaction against the failure of the Weimar Republic in Germany and the consequent rise of Nazism led him to advocate enlightened despotism. One feature of the *Laws* was the idea that one surrounds one's self with followers and let out the truth little by little. Other influences include Jacob Klein.

Modern Esotericism

The teachings of Plato and the Neoplatonists were to be particularly influential in the twentieth century through the work of the Universal Order. This was founded by amongst other, the astrologer and famous portrait photographer, Alvin Langdon Coburn. The basis of its classes and rituals was the Neoplatonic belief that the immortal soul is an active participant in the universe. Charles Carter was a member and (according to Charles Harvey) was far more influenced by it than by theosophy. Carter was John Addey's mentor in the order and he, in turn, was Charles Harvey's mentor. The order spread only by word of mouth and, according to Tm Addey (in 2002) is now moribund.

Here's an example of Platonic thinking from Richard Tarnas:

rather, the spirit of nature brings forth its own order through the human mind when that mind is employing its full complement of faculties – intellectual,

99. Lane, Melissa, 'Was Socrates a Democrat?', *History Today*, Vol. 52 (1), January 2002, pp. 42-7.

100. Popper, Karl, *The Open Society and its Enemies*, 2 Vols., London and New York: Routledge, 1945.

volitional, emotional, sensor, imaginative, aesthetic, epiphanic. In such knowledge, the human mind “lives into” the creative activity of nature.... then human language itself can be recognised as rooted in a deeper reality, as reflecting the universe’s unfolding meaning.... Human thought does not and cannot mirror a ready-made objective truth in the world; rather, the world’s truth achieves its existence when it comes to birth in the human mind.” (Tarnas 1991, p 435).

Tarnas, Richard, “ 1991 “The Passion of the Western Mind”: Understanding the Ideas That Have Shaped Our World View Publishers: The Ballantine Publishing Group, New York, USA.

Archetypal Psychology

Archetypal psychology was developed by the Jungian psychologist James Hillman, adapting Jung who himself was part of the intellectual tradition going back to Plato. Hillman wrote that:

In extending the tradition of Jung and Corbin forward, archetypal psychology has had to go back to their predecessors, particularly the Neoplatonic tradition via Vico and the Renaissance (Ficino), through Proclus and Plotinus, to Plato (*Phaedo*, *Phaedrus*, *Meno*, *Symposium*, *Timaeus*) and most anciently to Heraclitus.¹⁰¹

As Hillman says, the tradition extends back to Plato and beyond:

From Jung comes the idea that the basic and universal structures of the psyche, the formal patterns of its relational modes, are archetypal patterns. These are like psychic organs, congenitally given with the psyche itself (yet not necessarily genetically inherited), even if somewhat modified by historical and geographical factors. These patterns, or *archai* appear in the arts. Religions, dreams, and social customs of all peoples, and they manifest spontaneously in mental disorders. For Jung, they are anthropological and cultural, and also spiritual in that they transcend the empirical world of time and place and, in fact, are themselves not phenomenal. Archetypal psychology, in distinction to Jungian, considers the archetypal to be always phenomenal (Avens 1980), thus avoiding the Kantian idealism implied in Jung (de Voogd 1977).¹⁰²

Hillman’s argument is against essentialism, the belief that there is a real ‘essence’ underlying or world of transience and change. There is no real archetype waiting to be discovered. Instead, all we know is that there are phenomena arranged into patterns that we experience. The philosophy that claims that all we know the phenomena that we experience is the basis of modern phenomenology. Hillman added to this to the idea that phenomena are arranged into patterns. These may then be the clue to psychological disturbance. Hillman write that,

¹⁰¹ Hillman, James, *Archetypal Psychology* (London, Spring Publications, 2013 [1981]), p. 15.

¹⁰² Hillman, James, *Archetypal Psychology* (London, Spring Publications, 2013 [1981]), p. 14.

To study human nature at its most basic level, one must turn to culture (mythology, religion, art, architecture, epic, drama, ritual) where these patterns are portrayed.¹⁰³

Archetypal Cosmology and Archetypal Astrology

Hillman's archetypal astrology has been the inspiration for the development of Archetypal Astrology, sometimes bracketed under the more general title, Archetypal Cosmology, by Richard Tarnas and his colleagues.

Tarnas, Richard, 'Archetypal Cosmology: Past and Present', *The Mountain Astrologer*, June/July 2011 issue of *The Mountain Astrologer*, pp. 65-69
<https://cosmosandpsyche.files.wordpress.com/2013/05/tma611tarnas2.pdf>

Tarnas, Richard, 'An Introduction to Archetypal Astrological Analysis' (1987),
<https://cosmosandpsyche.files.wordpress.com/2013/05/introductiontoastrology1.pdf>
 [accessed 6 October 2018].

The journal *Archai* is the main vehicle for Archetypal Astrology -
<http://www.archai.org/>

The general approach is optimistic, For example:

Issue 6 (2017): Cultural Awakenings

We appear to be undergoing a collective psychological and cultural death-and-rebirth initiation on an unprecedented scale, and of unique historical significance. The Uranus-Pluto square, in orb from 2007 to 2020, is correlating with unexpected and deeply disruptive changes in many spheres, but it is also providing a rare opportunity to overcome these pervasive crises to usher our cultures into a new world view that is more just, compassionate, mindful, and sustainable than the apparent dead-end to which the habitual assumptions of late modernity, once so productive and inspired, have led us.¹⁰⁴

There is a large amount of other primary sources material on the web, both as text and videos.

See for example,

Renn Butler, 'Introduction to Archetypal Astrology: Sun, Moon, Mercury, Venus, and Mars', *Holotropic Breathwork*, 9 March 2009, <http://www.grof-holotropic-breathwork.net/group/archetypalholotropicastrology/forum/topics/introduction-to-archetypal> [accessed 6 October 2018].

Cinema

Does the film *The Matrix* portray a Platonic world?

See Partridge John, 'Plato's Cave and the Matrix'

¹⁰³ Hillman, James, *Archetypal Psychology* (London, Spring Publications, 2013 [1981]), p. 14..

¹⁰⁴ *Archai*, Issue 6. Current Issue, <http://www.archai.org/current-issue/>, [accessed 6 October 2017].

http://whatisthematrix.warnerbros.com/rl_cmp/new_phil_partridge.html
(accessed 9 Feb 2007)

But see the following on the death of the philosopher Jean Baudrillard:

'Jean Baudrillard', *The Guardian*, 8 March 2007, p. 38.

Such had been Baudrillard's name for the declining problem of the age since the 1970s, when he wrote that the Marxian problem of class struggle had been replaced, in the post-industrial era, with the problem of simulation. He thus anticipated by a decade or two, later arguments about the nature of "virtual reality". Pop culture paid tribute to his prescience in Andy and Larry Wachowski's 1999 film *The Matrix*, about a near-future Earth where human society is a simulation designed by malign machines to keep it enslaved, Hacker hero Neo (Keanu Reeves) hides his contraband software in a hollowed out copy of one of the philosopher's books, and rebel chief Morpheus (Laurence Fishburne) quotes Baudrillard's most famous formula: "Welcome to the desert of the real".

Baudrillard was invited to collaborate on the sequels, but declined. He later protested wryly that *The Matrix* had got him wrong: "The most embarrassing part of the film is that the new problem posed by simulation is confused with its classical Platonic treatment... *The Matrix* is surely the kind of film about the matrix that the matrix would have been able to produce.

See also 'Has this man really died?', James Harkin, Thursday March 8, 2007
The Guardian

http://www.guardian.co.uk/g2/story/0,2028749,00.html#article_continue

Baudrillard's tragedy is that, at least for anyone under the age of 30, the reputation of this *homme sérieux* will for ever be linked with a gimmicky Hollywood film. In their *Matrix* trilogy, the filmmakers Andy and Larry Wachowski lobbed in copious references to Baudrillard to give their work a little philosophical heft. Baudrillard was reportedly unimpressed, but he could console himself that it was only a simulacrum, and that it finally cemented his reputation across the pond. For all his criticism of America, Baudrillard ended up enchanted with a place he called "the original version of modernity". France, he pointed out, was nothing more than "a copy with subtitles".

Modern Cosmology

'...in order to convey a mathematical idea (usually in verbal descriptions), such precision may sometimes have an inhibiting effect at first, and a more vague and descriptive form of communication may be needed. Once the idea has been grasped in essence, then the details may be examined afterwards.

How is it that mathematical ideas can be communicated in this way? I imagine that whenever the mind perceives a mathematical idea, it makes contact with Plato's world of mathematical concepts...when one 'sees' a mathematical truth, one's consciousness breaks through into this world of ideas, and makes direct contact with it ('accessible via the intellect'). I have described this 'seeing' in relation to Gödel's theorem, but it is the essence of mathematical understanding. When mathematicians communicate, this is made possible by each one having a *direct route to truth*, the consciousness of

each being in a position to perceive mathematical truths directly, through this process of 'seeing'. (Indeed, often this act of perception is accompanied by words like 'Oh, I see'!) Since each can make contact with Plato's world directly, they can more readily communicate with each other than one might have expected. The mental images that each one has, when making this Platonic contact, might be rather different in each case, but communication is possible because each is directly in contact with the *same* externally existing Platonic world!

According to this view, the mind is always capable of this direct contact. But only a little may come through at a time. Mathematical discovery consists of broadening the area of contact. Because of the fact that mathematical truths are necessarily truths. No actual 'information', in the technical sense, passes to the discoverer. All the information is there all the time. It was just a matter of putting things together and 'seeing' the answer! This is very much in accordance with Plato's own idea that (say mathematical) discovery is just a form of *remembering*! Indeed, I have often been struck by the similarity between just not being able to remember someone's name, and just not being able to find right mathematical concept. In each case, the sought-for concept is in a sense already present in the mind...¹⁰⁵

The Essentialist notion that there is a 'reality' underpinning the material world remains popular amongst many scientists, who periodically 'rediscover' it. For example:

FOR a theory that has the world's finest physicists baffled, quantum mechanics is fantastically successful. It has made possible computers, lasers and nuclear reactors and explained how the Sun shines and why the ground beneath our feet is solid. But it is also strange, frustrating and incomprehensible. It insists that the microscopic world is a shadowy realm where nothing is certain - where an electron can be in two places at once and photons at opposite extremes of the Universe can communicate by some kind of weird telepathy.

But some physicists are beginning to suspect that there's another level of reality beneath the quantum world. Nobel prizewinner Gerard 't Hooft believes that underpinning quantum weirdness is an old-fashioned deterministic theory - one in which there's a simple relationship between cause and effect. Antony Valentini of Imperial College in London has now gone even further. He thinks that quantum mechanics may not ...¹⁰⁶

B.A.G Fuller explains Plato's description of the Forms in his book *A History of Philosophy*:

"They are, he tells us, eternal and immutable, present always and everywhere, self-identical, self-existent, absolute, separate, simple, without

105. Penrose, Roger, *The Emperor's New Mind: concerning computers, minds and the laws of physics*, London: Vintage 1991, p.554-5.

106 Chown, Marcus, 'Core reality', *New Scientist*, 29 June 2002.

<http://www.newscientist.com/article/mg17423495.100-core-reality.html>

beginning or end. They are complete, perfect, existent in every respect. They are without taint of sense or imagery, invisible to the eye, accessible only to the mind. ... Forming as they now did the intelligible structure of the entire universe, their scope had to be correspondingly extended. Wherever two or three data of sense are gathered together under a common name, there a Form is present also. Hence there must be as many Forms as there are possibilities of grouping things under headings and applying to them a common term."¹⁰⁷

Hetherington, Norriss S., 'Plato's place in the history of Greek astronomy: restoring both history and science to the history of science', *Journal of Astronomical History and Heritage*, 1999, Vol. 2, No. 2, p. 87-110.

Abstract

The history of ancient Greek geometrical astronomy often is written as a mathematical tour de force rather than history, with technical details of quantitative geometrical constructions the centre of attention, studied as if they were independent of the culture within which they flourished. Much of science is eliminated as well in focusing only on observations and the mathematical consequences of an initial hypothesis about the fundamental character of the movements of the planets. Plato with his philosophical vision exemplifies the influence of humanistic concerns in ancient science more broadly conceived. This study casts new light on both the ruling paradigm of Greek geometrical astronomy and the long-standing debate over whether ancient Greek astronomers were instrumentalists or realists, and also opens to view a deeper and richer understanding of science.

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¹⁰⁷ B.A.G. Fuller, *A History of Philosophy*. pp 130-1.

Plato, *Timaeus*, trans. R.G.Bury, Cambridge Mass., London: Harvard University Press 1931.

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On line

<http://classics.mit.edu/Plato/>

<http://philosophy.eserver.org/plato>

<http://philosophy.eserver.org/plato/theaetetus.txt>

Appendix

Plato *Book VII of The Republic* The Allegory of the Cave

From <http://classics.mit.edu/Plato/republic.html>

[Socrates is speaking with **Glaucón**]

[Socrates:] And now, I said, let me show in a figure how far our nature is enlightened or unenlightened: --Behold! human beings living in a underground den, which has a mouth open towards the light and reaching all along the den; here they have been from their childhood, and have their legs and necks chained so that they cannot move, and can only see before them, being prevented by the chains from turning round their heads. Above and behind them a fire is blazing at a distance, and between the fire and the prisoners there is a raised way; and you will see, if you look, a low wall built along the way, like the screen which marionette players have in front of them, over which they show the puppets.

[Glaucón:] I see.

And do you see, I said, men passing along the wall carrying all sorts of vessels, and statues and figures of animals made of wood and stone and various materials, which appear over the wall? Some of them are talking, others silent.

You have shown me a strange image, and they are strange prisoners.

Like ourselves, I replied; and they see only their own shadows, or the shadows of one another, which the fire throws on the opposite wall of the cave?

True, he said; how could they see anything but the shadows if they were never allowed to move their heads?

And of the objects which are being carried in like manner they would only see the shadows?

Yes, he said.

And if they were able to converse with one another, would they not suppose that they were naming what was actually before them?

Very true.

And suppose further that the prison had an echo which came from the other side, would they not be sure to fancy when one of the passers-by spoke that the voice which they heard came from the passing shadow?

No question, he replied.

To them, I said, the truth would be literally nothing but the shadows of the images.

That is certain.

And now look again, and see what will naturally follow if the prisoners are released and disabused of their error. At first, when any of them is liberated and compelled suddenly to stand up and turn his neck round and walk and look towards the light, he will suffer sharp pains; the glare will distress him, and he will be unable to see the realities of which in his former state he had seen the shadows; and then conceive some one saying to him, that what he saw before was an illusion, but that now, when he is approaching nearer to being and his eye is turned towards more real existence, he has a clearer vision, -what will be his reply? And you may further imagine that his instructor is pointing to the objects as they pass and requiring him to name them, -- will he not be perplexed? Will he not fancy that the shadows which he formerly saw are truer than the objects which are now shown to him?

Far truer.

And if he is compelled to look straight at the light, will he not have a pain in his eyes which will make him turn away to take and take in the objects of vision which he can see, and which he will conceive to be in reality clearer than the things which are now being shown to him?

True, he said.

And suppose once more, that he is reluctantly dragged up a steep and rugged ascent, and held fast until he 's forced into the presence of the sun himself, is he not likely to be pained and irritated? When he approaches the

light his eyes will be dazzled, and he will not be able to see anything at all of what are now called realities.

Not all in a moment, he said.

He will require to grow accustomed to the sight of the upper world. And first he will see the shadows best, next the reflections of men and other objects in the water, and then the objects themselves; then he will gaze upon the light of the moon and the stars and the spangled heaven; and he will see the sky and the stars by night better than the sun or the light of the sun by day?

Certainly.

Last of he will be able to see the sun, and not mere reflections of him in the water, but he will see him in his own proper place, and not in another; and he will contemplate him as he is.

Certainly.

He will then proceed to argue that this is he who gives the season and the years, and is the guardian of all that is in the visible world, and in a certain way the cause of all things which he and his fellows have been accustomed to behold?

Clearly, he said, he would first see the sun and then reason about him.

And when he remembered his old habitation, and the wisdom of the den and his fellow-prisoners, do you not suppose that he would felicitate himself on the change, and pity them?

Certainly, he would.

And if they were in the habit of conferring honours among themselves on those who were quickest to observe the passing shadows and to remark which of them went before, and which followed after, and which were together; and who were therefore best able to draw conclusions as to the future, do you think that he would care for such honours and glories, or envy the possessors of them? Would he not say with Homer,

Better to be the poor servant of a poor master, and to endure anything, rather than think as they do and live after their manner?

Yes, he said, I think that he would rather suffer anything than entertain these false notions and live in this miserable manner.

Imagine once more, I said, such an one coming suddenly out of the sun to be replaced in his old situation; would he not be certain to have his eyes full of darkness?

To be sure, he said.

And if there were a contest, and he had to compete in measuring the shadows with the prisoners who had never moved out of the den, while his

sight was still weak, and before his eyes had become steady (and the time which would be needed to acquire this new habit of sight might be very considerable) would he not be ridiculous? Men would say of him that up he went and down he came without his eyes; and that it was better not even to think of ascending; and if any one tried to loose another and lead him up to the light, let them only catch the offender, and they would put him to death.

No question, he said.

This entire allegory, I said, you may now append, dear Glaucon, to the previous argument; the prison-house is the world of sight, the light of the fire is the sun, and you will not misapprehend me if you interpret the journey upwards to be the ascent of the soul into the intellectual world according to my poor belief, which, at your desire, I have expressed whether rightly or wrongly God knows. But, whether true or false, my opinion is that in the world of knowledge the idea of good appears last of all, and is seen only with an effort; and, when seen, is also inferred to be the universal author of all things beautiful and right, parent of light and of the lord of light in this visible world, and the immediate source of reason and truth in the intellectual; and that this is the power upon which he who would act rationally, either in public or private life must have his eye fixed.