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The ancient covenant is in pieces; man knows at last that he is alone in the universe's unfeeling immensity, out of which he emerged only by chance. His destiny is nowhere spelled out, nor is his duty. The kingdom above or the darkness below; it is for him to choose.^T

Does the universe support our moral endeavours? Does the world, as we know it, give us reason to think that we will be better off, happier, more thriving, if we pursue a course of moral probity than if we do not? Does the universe make us feel at home as moral agents? Does goodness or beauty figure in the world independently of us? Can we learn something about how to live our lives from observing the universe? Many today would agree with Jacques Monod in answering 'no' to all of these questions. We live in an 'unfeeling' universe. The world is insensitive to our moral concerns. Values are mere human 'constructs', which the universe at best is indifferent to and at worst undermines.

Reading Plato we are brought back to a world in which the 'ancient covenant', the moral agreement between man and the universe, still holds. It is a tenet of Plato's thought that man is not alone in the universe with his moral concerns. Goodness is represented in the universe. We can therefore learn something about goodness by studying the cosmos. Cosmology teaches us how to lead our lives. It is therefore a recommended course of studies if we are to become better people.² This is Plato's claim in the *Timaeus-Critias*.

¹ Final words of Jacques Monod (1971).

² Cf. *Tim.* 90c–d: 'Now there is but one way to care for anything, and that is to provide for it the nourishment and the motions that are proper to it. And the motions that have an affinity to the divine part within us are the thoughts and revolutions of the universe. These, surely, are the ones which each of us should follow. We should redirect the revolutions in our heads that were thrown off course at our birth, by coming to learn the harmonies and revolutions of the universe; and so bring into conformity with its objects our faculty of understanding, as it was in its original conditions. And when this conformity is complete, we should have achieved our goal: that most excellent life offered to humankind by the gods; both now and for ever more' (Zeyl transl.).

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This book is about the representation of goodness in the cosmos as Plato sees it in the *Timaeus-Critias*. Far from being value-free, cosmology for Plato is centred on the representation of goodness and beauty. He sees it as the central task of cosmology to articulate the way in which the cosmos manifests those values. Another word for this conception of cosmology is 'teleology'. For Plato goodness and beauty do not just happen to be found in the cosmos. They are there because the cosmos is so designed. A teleological explanation, understood very broadly, explains something by reference to its end or goal. Teleological explanations therefore typically take the form 'X occurs in order that Y or so that Y'. In Plato's natural philosophy, however, teleology takes the more specific form of explaining phenomena by reference to ends considered as good or beautiful.³ We seek to show that the cosmos works the way it does because so working makes the cosmos good and beautiful. So this book is also about Plato's teleology, as the form of explanation that demonstrates how the cosmos works for the good.

The conception of teleology as centred on the good is familiar from Plato's *Phaedo*. Socrates in his younger days was excited to hear Anaxagoras' view that Mind directed everything because he thought that 'if this were so, the directing Mind would direct everything and arrange each thing in the way that was best' (97c). So he 'was ready to find out about the sun, and the moon and the other heavenly bodies, about their relative speed, their turnings and whatever else happened to them, how it is best that each should act or be acted upon' (98a2–7).⁴ Socrates expected not just that Mind had arranged matters with an end in mind but that this end was the best possible arrangement. Cosmology should show how matters are arranged with a view to a goal that is good.⁵ As it happened, Anaxagoras failed to live up to Socrates' expectations. However, as scholars have often pointed out,⁶ the *Phaedo* set the terms for the kind of teleological cosmology that would find its fulfilment in the *Timaeus*.

There are in the *Timaeus* two points about this kind of cosmology that make it relevant to ethics. The first is that the very properties that constitute

³ A similar view of Aristotle's natural teleology is held by Cooper (1982) and Furley (1996). See Woodfield (1976) for a modern theory of teleology centred on goodness.

⁴ Grube transl.

⁵ Phd. 98a9-b3 further makes it clear that Socrates expects a teleological cosmology to specify both the good for each thing (τὸ ἐκάστῷ βέλτιστον) and the common good (τὸ κοινὸν πᾶσιν ἀγαθόν). However, the passage does not make it clear whether 'each thing' is supposed to mean each kind of thing or each individual. The examples 'sun', 'moon', 'heavenly bodies' are compatible with either option. In the *Timaeus* teleology works both on the level of each kind of thing within the cosmos (cf. for example, the divine foresight (*pronoia*) that goes into the creation of the human body, 44e-45b) and on the level of the cosmos as a whole (cf. 30c-31a).

⁶ Cf. Cornford (1937) 174-5, Lennox (1985), and Sedley (1989) 359.

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goodness in the cosmos also do so in human life: order and proportionality. Timaeus' ethical recommendation is therefore that through cosmology we imitate the order of the universe in our own souls and thereby become more virtuous and happier. The second point is that the cosmology of the *Timaeus* is to a limited extent anthropocentric. It is anthropocentric only to a limited extent because the primary task of cosmology is to demonstrate the goodness and beauty of the whole cosmos, of which man is just a part. Nevertheless, we see a kind of anthropocentricity, for example, in the view that the sun illuminates the heavens so that by observing the planets 'those animals to which it was appropriate' can learn the mathematical regularities that govern their motions and thereby become better persons (*Tim.* 39b–c, cf. ch. 8 pp. 165–6).⁷ The foresight that lies behind the universe takes into account in a special way the ethical requirements of living beings such as us. There is therefore a sense in which the cosmos also fulfils *its* purpose when we use cosmology to become better persons.

We are accustomed to thinking of the Socrates of the so-called early dialogues as having no interest in natural philosophy. Famously, he says to the jurors in the Apology that 'I do not speak in contempt of such knowledge, if someone is wise in these things . . . but, gentlemen, I have no part in it' (19c). It may of course be because Socrates is here 'on record' as not doing natural philosophy that Plato chooses another character to present the cosmology of the *Timaeus*.⁸ Yet it is not entirely clear, even in the Apology, whether Socrates' lack of interest relates to natural philosophy as such or to how it has commonly been practised. However this may be, there is in Plato another strand in Socrates' thinking about the cosmos which, springing from concerns with moral and divine order, would sanction an ethically informed cosmology.9 So Socrates at Gorgias 508a invokes wise men who 'claim that community (koinonia) and friendship (philia), orderliness (kosmiotes), self-control (sophrosune), and justice (dikaiotes) hold together heaven and earth, and gods and men, and that is why they call this universe a world order (kosmos)'. Again in Republic IX Socrates says that

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⁷ Timaeus' phrasing may make it sound as if the fact that human beings rather than other animals benefit from cosmology is accidental. However, since the other animals represent the souls of human beings who have failed to take proper account of cosmology there is a sense in which Timaeus' point applies particularly to human beings. I am grateful to one of the readers for helping me clarify this point.

 ⁸ I am not concerned here with the questions of what the opinions of the historical Socrates were and whether Plato moved away from them, but with the idea that Plato might wish to present his own Socrates character as consistent in his attitude to cosmology across the dialogues.

⁹ There is a similar duality in Xenophon's portrayal of Socrates. Whilst denying interest in cosmology at *Mem.* 1.1.11–13, Xenophon's Socrates also shows the teleological ordering of the cosmos when arguing for the benefaction of the gods at *Mem.* IV.3.3–14.

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there is an example of the just city laid up in heaven for the wise man to imitate (592b).¹⁰ And at *Philebus* 28d–30c Socrates argues that Mind (*nous*) is the cause of the ordered motions of the heavens just as it brings about order and health in the human body. These passages suggest that Socrates would be sympathetic to a cosmology which showed the cosmos as an exemplar of good order to be studied and imitated by us.¹¹ The *Timaeus-Critias* is Plato's fullest development of this notion of cosmology.

There is of course nothing new in saying that Plato's cosmology is teleological or that the *Timaeus* occupies a foundational role in ancient natural philosophy as what David Sedley aptly calls 'the teleologists' bible'.¹² What I hope is new in this book is the attempt to show the extent to which Plato's concern with teleology ties together the seemingly disparate strands of discussion in the *Timaeus-Critias*. This point applies, to mention some of the topics tackled, to the question of the unity of the *Timaeus-Critias* (ch. I), the status of the Atlantis story and the cosmology (chs. 2 and 3), the notion of divine craftsmanship (ch. 4), the concept of necessity (ch. 5), the relationship between the body and the soul (ch. 7), the account of the contribution of sense-perception to cosmology (ch. 8), and even, I suggest, to the work's peculiar monologue form (ch. 9). This book offers teleology as a unifying theme running through a work that has often been dealt with in an episodic fashion.

Let me also say from the outset what this book does not deal with or deals with only in passing. As Taylor's (1928) commentary shows, the *Timaeus-Critias* is a work that invites prolixity. It is an especially demanding dialogue to interpret because, as befits a work on the cosmos, it covers so many different topics. I have remained silent on many of these topics either because of the limitations of my project or because the topics are often well covered in the published literature and I did not feel that I had anything new and relevant to contribute. These include details of Plato's political position in the *Timaeus-Critias* as compared with that of the *Republic, Statesman*, and *Laws*, on which I refer the reader to the work of C. Gill and more recently Pradeau (1995). While I regularly draw connections between the *Timaeus-Critias* and other Platonic dialogues, I have not attempted a systematic comparison. Consequently, I have not been in a position to discuss

¹⁰ For a defence of the idea that 'heaven' here refers to the cosmos (rather than a realm of Forms), see Burnyeat (2000a) 781.

¹¹ I am thus broadly sympathetic to Graham's (1991) claim that 'Plato's demand for teleological explanation in natural philosophy has roots in Socratic ethics' (8), although I am not sure to what extent the demand is rooted in the specifics of Socrates' ethical programme.

¹² Sedley (1998a) 152.

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the dating of the dialogue either. My own view is that the dialogue is 'late', though that may ultimately only mean that I have found my own reading of the *Timaeus-Critias* enriched by familiarity with other dialogues commonly considered early or middle period. Nor will the reader find a discussion here of the details of the dialogue's use of mathematics, on which I would refer to Cornford (1937), Vlastos (1975), and Burnyeat (2000b), or the dialogue's afterlife in the history of astronomy, on which one might consult Sambursky (1963), Wright (1995), and Gregory (2000). More generally, the dialogue's considerable influence on later ancient and medieval philosophy is not discussed in this book (for which cf., e.g., Baltes (1976–8)).

Finally, this book offers no treatment of the details of Plato's debts to the Presocratics (cf. Taylor (1928), Cornford (1937), and Calvo and Brisson (1997)). This omission may seem to require special pleading. Plato clearly in some sense intends the *Timaeus* to be read as a response to Presocratic natural philosophy, sometimes referred to as the *Peri phuseōs* ('On Nature') tradition.¹³ It seems clear that the *Timaeus* borrows extensively from Empedocles, Democritus, Xenophanes, Parmenides, and others. However, the extent and exact nature of these borrowings are in many cases elusive.¹⁴ Moreover, given Socrates' criticism of Presocratic cosmology in the *Phaedo* (echoed by *Timaeus* 46dI–e6), we should expect Plato not simply to take over his predecessors' accounts unchanged. Rather they have to be modelled to fit the dialogue's teleological agenda.¹⁵ I have therefore taken the question of the manner and degree in which teleology explains the universe to be the fundamental one if we are then in turn to understand Plato's adaptation of Presocratic materials.

From the point of view of articulating Plato's teleology I have thought it instructive to place the *Timaeus-Critias* within the context of Aristotle's philosophy. As David Furley puts it, the *Timaeus* 'did as much as any other single work of his predecessors to shape [Aristotle's] philosophy of nature'.¹⁶ This is not to say that Aristotle always agrees with Plato, or that we can blithely assume that Aristotle represents Plato's positions correctly. However, the teleological outlook that drives both philosophers often makes

¹³ Cf. Naddaf (1997) and the introduction in Wright (2000).

¹⁶ Furley (1996) 63.

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¹⁴ Cf., for example, Hershbell (1974), who argues (against Taylor (1928)) that whilst there are similarities between Empedocles and the *Timaeus* 'there are no direct references to Empedocles or to his works in the *Timaeus*' (165) and 'there are no apparent quotations, or readily identifiable verbal echoes or paraphrases' (165). He concludes that though 'it is most likely' (166) that the *Timaeus* is influenced by Empedocles, 'much more cannot be asserted with confidence'.

¹⁵ Diogenes of Apollonia, sometimes credited as the first teleologist, may be an honourable, if enigmatic, exception, though Laks (1983) 250–7 tells a cautionary tale. For a very high estimate of Diogenes' influence on Socrates, see Burnet (1911).

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them confront the same kinds of questions and objections. I hope therefore to convey a sense of the ways in which Plato anticipates the concerns of Aristotle's natural philosophy, even where their specific answers differ. One danger of such comparisons between Plato and Aristotle is that Plato's ideas will seem underdeveloped and less articulate than Aristotle's. Whilst the Timaeus-Critias is as much about teleology as Aristotle's Physics, there is nothing in the Timaeus to correspond to the detailed analysis of final causation in *Physics* II. This difference has much to do with the generally contrasting writing styles of the two philosophers' extant works. But it also reflects Plato's different strategy of persuasion in the Timaeus-Critias. Whilst devoid of neither argument nor conceptual analysis, the work equally persuades by *painting a picture* in words of our world as predominantly good and beautiful. It seeks thereby to convert us to a way of looking at the world that gives us confidence in the relevance and success of the morally good life, if we choose it. As a picture, the work draws us in by its detail and completeness, 'from the creation of the cosmos down to the nature of man' (27a6). The Timaeus-Critias can in part, then, be viewed as a philosophical ekphrasis, or depiction in words, of the whole cosmos. To see one's proper place in this world order is to understand the practical imperative of leading the good life.

CHAPTER I

What is the Timaeus-Critias about?

One of the basic puzzles of the *Timaeus-Critias* concerns the thematic unity of the dialogue.¹ Why is the bulk of the dialogue taken up with a discussion of natural philosophy when it apparently sets out simply to give an account of a war between Atlantis and ancient Athens? What, if anything, does natural philosophy have to do with war?

The *Timaeus-Critias* is presented as a continuation of the *Republic*. Socrates begins by reporting a conversation he had yesterday, in which he described a constitution (*politeia*) which in outline matches that of the *Republic*.² He now expects his listeners from yesterday to repay him in kind. Here is what he wants:

And now, in the next place, listen to what my feeling is with regard to the city which we have described. I may compare my feeling (*pathos*) to something of this kind: suppose, for instance, that on seeing beautiful creatures, whether works of painting (*graphē*) or actually alive but in repose, a man should be moved with desire to behold them in motion and vigorously engaged in some such exercise as seemed suitable to their bodies; well, that is the very feeling I have regarding the city we have described. Gladly would I listen to anyone who should describe in words our city contending against others in those struggles which cities wage; in how proper a fashion it enters into war, and how in its warring it exhibits qualities such as befit its education and training in its dealings with each several city whether in respect of military actions or in respect of verbal negotiations.³ (19b3–c9, transl. Bury with alterations)⁴

⁴ Where no translator is specified translations in this book are my own.

¹ I take it to be relatively unproblematic and generally undisputed today that the two works form a *compositional* unity. Thus Critias' story is announced at 27a2–b6 as part of the same plan (*diathesis*, 27a2) as Timaeus' account and at the beginning of the *Critias* Timaeus hands over the next account (*ton exēs logon*) to Critias. On the composition of the dialogue as a whole, cf. Clay (1997), Welliver (1977) 58ff.

² For a discussion of the degree of 'match', see Gill (1977).

³ ἀκούοιτ' ἂν ήδη τὰ μετὰ ταῦτα περὶ τῆς πολιτείας ἦν διήλθομεν, οἶόν τι πρὸς αὐτὴν πεπονθώς τυγχάνω. προσέοικεν δὲ δή τινί μοι τοιῷδε τὸ πάθος, οἶον εἴ τις ζῷα καλά που θεασάμενος, εἴτε ὑπὸ γραφῆς εἰργασμένα εἴτε καὶ ζῶντα ἀληθινῶς ήσυχίαν δὲ ἄγοντα, εἰς ἑπιθυμίαν ἀφίκοιτο θεάσασθαι κινούμενά τε αὐτὰ καί τι τῶν τοῖς σώμασιν δοκοῦντων προσήκειν κατὰ τὴν ἀγωνίαν ἀθίλοῦντα· ταὐτὸν καὶ ἐγὼ πέπονθα πρὸς τὴν πόλιν ῆν διήλθομεν. ἡδέως γὰρ ἄν του λόγω διεξιόντος ἀκούσαιμ ἀν ἀθίλους σύς πόλις ἀθλεῖ, τούτους αὐτὴν ἀγωνίζων μοι τοῦς ἀκούσαιμ ἀν ἀθίλους σύς πόλις ἀθλεῖ, τούτους αὐτὴν ἀγωνίζομένην πρὸς πόλεις ἀλλας, πρεπόντως εἴς τε πόλεμον ἀφίκοιτο τῆς τέργος ἀκούσαιμ ἀν ἀθίλους τῆς πόλις το τοῦς ἐκαστας τῶν τοῦς ἰς τοῦς ἀκούσαιμ ἀν ὅνους πόλεις τῶν πάποδεία καὶ τροφῆ κατά τε τὰς ἐν τοῦς ἑργοις πράξεις καὶ κατὰ τὰς ἐν τοῦς λόγοις διερμηνεύσεις πρὸς ἑκάστας τῶν πόλεων.

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The Atlantis story is told by Critias in response to this request. In the story the citizens of ancient Athens take on the role of Socrates' virtuous citizens. The story shows how the Athenians entered into war 'in a proper fashion', defending themselves and the rest of the Mediterranean world against the aggression of Atlantis. Athens defeated the enemy, showing in her isolation her superior virtue and strength (*aretē kai rōmē*). Critias never completes the Atlantis story. So we lack the details of the war, such as how the Athenians dealt, to quote Socrates, 'with each several city whether in respect of military actions or in respect of verbal negotiations'. However, it is clear from the start that the Atlantis story is meant to illustrate the virtues of Socrates' ideal citizens. As Critias says, he was amazed at how 'uncannily (*daimoniōs*) by some unmeditated stroke of luck' his story corresponded with Socrates' description of the ideal city (25e2–5).

Critias is indeed 'lucky'. Not only does the Atlantis story happen to fit the particulars of Socrates' request in the *Timaeus*, it also satisfies Socrates' criteria for admissible story-telling in the *Republic*. Socrates makes it clear already in Book III of the *Republic* that the stories that we should tell ought to show how good men benefit from their virtue and bad men suffer from their vice (392b). However, he realizes that he cannot assume this point but needs to demonstrate how justice 'given its nature rewards its possessor whether or not he gives an impression of justice' (392cI–4). By *Republic* x Socrates has accounted for the nature of justice and shown, as he believes, how justice makes one happy and injustice makes one miserable. Despite his strictures on imitative poetry, he reasserts the admissibility of the sort of poetry that praises gods and good men (607a3–5): 'you should know that the only poetry we can admit into our city is hymns to the gods and encomia of good men'.

As I argue more fully in chapter 2, the Atlantis story reads as an example of this sort of encomiastic poetry. It shows how the Athenians by their virtue overcame their evil opponents. But if this is so, the question arises why Critias does not simply tell us the Atlantis story straightaway but postpones it until Timaeus has given his account of the creation of the *kosmos*. For it would seem that Critias could simply recount the actions of the war, relying on Socrates' argument in the *Republic* for the point that the justice of the Athenians led to their flourishing and the injustice of the Atlantids to their grief. Instead what we get is about sixty-five Stephanus pages of natural philosophy before Critias returns to the Atlantis story. This is how Critias describes the plan of the speeches:

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Timaeus shall speak first. He knows more about astronomy than the rest of us and has had made knowledge of the nature of the universe his chief object; he will begin with the generation of the world and end with the nature of man. Then I am to follow, taking over from him mankind, whose origin he has described, and from you [*sc.* Socrates] a portion of them who have received a supremely good training. $(27a_3-b_1)$

Critias here indicates an explanatory connection between the Atlantis story and Timaeus' account of the universe and the nature of man. In telling his story Critias relies both on our understanding of the way in which the Athenians have been educated and on Timaeus' account of their nature. What is the relevance of this account of human nature to the Atlantis story? And why is Socrates' demonstration in the *Republic* of how happiness follows from virtue apparently not sufficient to explain how his citizens would behave successfully in war?

My suggestion is that the *Republic*'s approach to justice and its benefits may be seen as inadequate on its own to persuade us that the virtuous citizens would be successful in war. For we may in the *Republic* have seen how justice manifests itself *internally* in the individual character and the individual state, but we have not seen how it expresses itself *externally* in relation to other cities or other types of citizen. The 'internalist' approach to justice and its rewards is quite appropriate in the *Republic* given the task that Socrates was set in that dialogue, namely, to show how justice in and of itself, whatever its consequences in the world, makes its possessor happier than injustice (*Rep.* 367d–e). However, this approach leaves questions as to how justice understood as the right order of soul or a city asserts itself when confronted with an *external* challenge or threat.

In the *Republic*, the guardians hold the most important job in the city (*Rep.* 11 374d-e), protecting the city against its enemies, internal as well as external. Like a watchdog, the guardian's character has to be both gentle and fierce, gentle towards friends, fierce towards enemies. Initially, the role of philosophy is said to be the recognition of one's friends and foes, again in the manner of a watchdog. However, as the dialogue proceeds to lay down the education of the philosopher, the character of his knowledge, and the institutions that ensure justice and cohesion within the city, it is easy to lose sight of the part of the philosopher's guardianship that concerns warding off the city's external enemies. Occasionally, we are reminded that this part should not be forgotten, for example in Book VII when Socrates complements the guardians' education in mathematics and dialectic with the experience of warfare in order, as he says

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continuing the watchdog image, 'to give them a taste of blood as we do whelps' (537a).

If the guardian's role in war is allowed to slip somewhat out of sight in the Republic, the Timaeus sharply refocuses on it. Though Socrates in his speech at *Timaeus* 19bff. speaks generally of the *city's* actions in war, without specifying any particular group of citizens, it must be the guardians (or the 'guards' as one might also translate *phulakes*) that he specifically has in mind. For it is they who were said to fight on behalf of all (pro panton, 17d3). In his résumé of the ideal state Socrates addresses primarily the military role of the guardians. He introduces them as follows: 'And when we had given to each [citizen] that single employment and particular art which was suited to his nature, we spoke of those who were intended to be our warriors, and said that they were to be guardians of the city against attacks from within as well from without, and to have no other employment' (17c-18a). He goes on to compare the guardians to mercenaries (18b). At 17d3–18a2 Socrates distinguishes between the guardians' gentle treatment of their own subjects, who are their natural friends even when they do wrong, and the guardians' harsh treatment of those of their enemies whom they encounter in battle. Again this is the theme, familiar from Republic II, of the watchdog being gentle to friends and fierce to foes. It is then external war that particularly draws on the guardians' harsh, spirited nature, a nature they have developed through the bodily activities of gumnastike. The role of philosophy is perhaps hinted at through the reference to the guardians' 'very philosophical' character (though this may still only be in the extended sense that a watchdog is 'philosophical') and the rather vague reference to training in *mousikē* (18a9). However, there is no evidence in the Timaeus of the distinction between philosophers and auxiliaries as having separate roles corresponding to their different degrees of nous and *thumos*. Rather the guardian represents a single character who is at once both exceptionally spirited and philosophical.⁵ Whilst the *Timaeus* maintains the tripartite account of the soul from *Republic* IV,⁶ it also takes the guardian to represent the virtues of both the *thumoeides* and the *logistikon*. In that sense, the Timaeus reverts to the original character of the philosopher-warrior in Republic 11.

The *Timaeus* focuses on the guardian's function in war with other cities rather than on their educational and legislative functions within their own

⁵ Tim. 18a4-5: φύσιν γάρ οἶμαί τινα τῶν φυλάκων τῆς ψυχῆς ἐλέγομεν ἅμα μὲν θυμοειδῆ, ἅμα δὲ φιλόσοφον δεῖν εἶναι διαφερόντως...

⁶ Cf. *Tim.* 69d, 87a, 89e and chapter 7 below.