University of Alberta

On 'A Kind of Philosophy': A Synoptic Commentary on Plato's Timaeus

by

Joel Richard McCrum 

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the

requirements for the degree of *Master of Arts*

Department of *Political Science*

Edmonton, Alberta
Fall 2004

Your file Votre référence
ISBN: 0-612-95643-1
Our file Notre référence
ISBN: 0-612-95643-1

Most minds lose interest when one makes things too easy for them. And to compose here a setting that pleases you, I must employ shadow as well as bright colors. Thus I will be content to pursue the description I have begun, as if having no other design than to tell you a fable.

Descartes

Not from the stars do I my judgment pluck
And yet methinks I have astronomy...

Shakespeare

ACKNOWLEDGEMENTS

I wish to thank my parents, Janice and Ian McCrum, for their unwavering support of my education, especially over the course of this project, and for a generosity of spirit that I have never seen equaled and could not possibly hope to deserve. You have done so much for me, and I am forever grateful. To my sisters, Marta and Amy, thank you for putting up with me over the past few months and for your constant encouragement. I also wish to thank my grandparents, E.M. McCrum, Dr. J.R. McCrum and Olga Copley, who have shown a great interest in my studies and have been extremely generous with their time, to say nothing of their formidable culinary skills.

I owe a great debt to Dr. Robert Burch, who was responsible for first kindling my interest in political philosophy. It has been a pleasure taking his courses and having him serve on my committee. Similar thanks are due to Dr. Heidi Studer for all she has taught me about philosophy and politics, and for constantly challenging me to improve myself. Dr. Leon Craig has, through his lectures, writings, discussions, and above all by his personal example, provided the very model of a liberal education. I am honored to have had the chance to study under such an educator and a man.

Not least among the achievements of these teachers is the extraordinary group of students they have produced. They are too numerous to list here, but I am fortunate to count all of these classmates as friends, and to have learned a great deal from them. Justice dictates that I mention a few who were particularly instrumental in the production of this work: To Mark Verbitsky, Laura Field, and Natalie Elliot, thank you for your suggestions, encouragement, and friendship.

TABLE OF CONTENTS

INTRODUCTION

Upon first examination, Plato's *Timaeus* presents itself as a work of solely historical import, showing the level to which natural philosophy or science had progressed in Plato's time. It is the only Platonic dialogue with an explicit and sustained discussion of science and cosmology, so it is inviting to consider this work a mere compendium of Plato's thoughts on the heavenly bodies and human physiology. But now that modern science has discovered the truth about these topics, it seems the work could at most be considered an engaging historical curiosity. However, a closer look reveals an artfully crafted dialogue that could potentially teach us a great deal about scientific explanations and their relationship to philosophy. This is not to neglect the importance of the 'doctrines' presented in this dialogue from a historical perspective, but rather to approach the dialogue with a fitting openness to learning from its author.

The *Timaeus* is the most treatise-like of Plato's dialogues, but it is emphatically not a treatise. Its cosmological and physiological speculations follow an intricate dialogic 'set-up' which relates this dialogue to Plato's *Republic*, and the conclusion of Timaeus' speech actually serves as the opening words of the *Critias*. At the beginning of the *Timaeus* we are told about Solon's travels in Egypt, the strange scientist-priests he met there, and an ancient story about a war between Athens and the technological empire of Atlantis. It is in this context that Timaeus expounds his "likely story" about the cosmos, and we must assume that this context is meaningful for understanding the dialogue as a whole. On the interpretive assumption that Plato

himself followed the recommendations for philosophic writing that he has Socrates provide in the *Phaedrus* (264b-c), we may presume that had Plato wished to present his thought in treatise form, he would have done so, and not needlessly encumbered it with an irrelevant opening dialogic preface. The significance of this will soon become clear.

What, then, can a careful reader learn from Plato's *Timaeus?* The most obvious answer would be that this dialogue 'On Nature'[1] might teach us something important about the natural world. Having been inundated with modern natural science, with its emphasis on experimentation and mathematical proof, we are apt to underestimate the degree to which lucid thought about natural phenomena can provide us with knowledge about the world. Consider, for example, the question of relationship between form and matter: Aristotle's analysis of this problem in the *Physics* conclusively demonstrates the true connection between these two concepts, and the truth of his reasoning is not altered by our different conception of the elements, nor by the revelations made possible by particle accelerators or radio telescopes. As Werner Heisenberg, one of the major scientific contributors to the theory of quantum mechanics, puts it:

> ... some statements of ancient philosophy are rather near to those of modern science. This simply shows how far one can get by combining the ordinary experience of nature that we have without doing experiments with the untiring effort to get some logical order into this experience to understand it from general principles[2].

[1] This was the dialogue's customary subtitle in antiquity, which was catalogued by Thrasylus and noted by Diogenes Laertius.
[2] Heisenberg, *Physics and Philosophy* p. 75

This approach has the advantage of forcing one to think through the issue oneself, rather than relying on the ever-tempting locutions "we know", or "science tells us". In the course of examining these problems we may even discover gaps in the modern scientific account which science tends to disguise behind a claim to comprehensive truth. In the Introduction to his translation of Aristotle's *Physics*, Joe Sachs makes this point particularly clearly:

> This kind of smugness is a predictable result of the way the sciences have been taught to us. Conjectures and assumptions, because they have been part of authoritative opinion for a few centuries, *are presented to us as stories or facts, without recourse to evidence or argument.* Particular doctrines, even when they stand on theoretical structures as complex and fragile as a house of cards, or even when they presuppose a picture of things that is flatly in contradiction with itself, tend to be prefaced with the words "we know ..." All the rhetoric that surrounds the physics of our time tells us that philosophic inquiry need not enter its territory ... Strangely, the physics of the twentieth century is surrounded by the same air of dogmatic authority as was the school Aristotelianism of the sixteenth century[3].

Now, the *Timaeus* also provides us with a "story" about the cosmos, much of it without sufficient evidence or argument. In interpreting the dialogue, we are led to ask the same type of questions of Timaeus' account that we would be well advised also to ask of modern science. Plato leads us to these problems by means of a carefully composed 'likely story' placed in the mouth of his character Timaeus. He does not himself reason out the puzzles and inconsistencies in the account – indeed, he silences his usually irrepressible Socrates for the duration of Timaeus' speech – but he thereby tacitly encourages his reader to undertake this process, thereby

drawing him in to the activity of philosophizing about the cosmos. Thus the dialogue becomes, like all Platonic dialogues, an invitation to philosophize for oneself. It seeks to overcome the criticisms of writing that Plato has his Socrates describe in the *Phaedrus* (274e ff.), that writing weakens the memory, and does not change its message upon repeated encounters or when read by different people. Though Plato's character Timaeus[4] gives a speech about the cosmos, we are to enter into conversation with the text, actively questioning it, and learning something about both nature and philosophy in this process.

Plato's use of the dialogic form also allows him to show us how scientific questions connect to the larger context of human life, which would be difficult, if not impossible, in a treatise. In addition to the cosmologist Timaeus, we are introduced to the political men Critias and Hermocrates, Solon the statesman-poet, a strange Egyptian priest, and some others besides. Thus Timaeus' cosmic inquiring is shown in its relationship to other ways of life. We can consider whether Timaeus' cosmology somehow leads to Critias' political structuring, and to what degree it depends on a prior conversation similar to the one portrayed in Plato's *Republic*. We can ask if Timaeus' disposition is closer to Solon's or the Egyptian priest's, and what qualities of soul account for this. And, what is perhaps more important, we can attempt to set Timaeus' study of 'the all' into the context of political life as a whole. Modern science, of course, makes no attempt to answer such questions, which are prior to scientific inquiry and therefore cannot be answered scientifically.

---

[3] Sachs, *Aristotle's Physics* p. 10 (emphasis added)
[4] Who may be entirely fictional (see Lampert and Planeaux, p. 91-5)

Though the foregoing provides sufficient reason to undertake a serious examination of Plato's *Timaeus*, the most important question has not yet been raised. This is to be found in a comparison of loquacious Timaeus and the almost silent Socrates, both of whom stake a claim to philosophy but approach this study in radically different ways. In juxtaposing these two characters, Plato encourages us to clarify our thought on what the philosophic life entails and how best to study the world. Though Socrates says little, his silent presence is sufficient to present an alternative to Timaeus' investigation of 'the all'. Socrates is famous for making a turn away from the 'natural science approach' that characterizes Timaeus' speech, and towards the investigation of 'the human things'. Through a careful examination of the dialogue as a whole, and Timaeus' long speech in particular, it is hoped that we will come to a clearer understanding of the rationale and significance of this 'Socratic turn'.

I have been aided in my study of this challenging work by a number of excellent scholarly commentaries. Foremost among these is Peter Kalkavage's new translation of the dialogue, which includes an extremely helpful introductory essay and copious notes and appendixes. However, in the interests of approaching the dialogue directly, and to avoid falling into philological excesses similar to those of the Egyptian priest[5], I have limited my commentary to the dialogue itself, relegating any comments on the secondary literature to an occasional footnote. For a list of commentaries on the *Timaeus* that I found to be useful, one is invited to consult the bibliography.

CHAPTER I: THE DIALOGIC PROEM

The dialogue begins with an enumeration of the participants, followed quickly by the realization that someone is missing. This may have symbolic significance, in that this discussion of the order of the *cosmos* is not itself a complete and ordered whole. Contingency enters in – ostensibly an illness – forcing the members who are present to take over the absent fourth's duties as best they can. The fact that the discussion is disrupted by one of the participants falling ill reminds us of the constraints the human body sometimes places on the soul, and anticipates Timaeus' later discussion of the human form. There is, however, also a possibility that the supposed sickness of the fourth participant is actually a polite excusing of an absence attributable to a different, perhaps less politically acceptable, cause[6]. This sort of difficulty in distinguishing actual causes from politically motivated pretexts is present throughout the dialogue, especially in Timaeus' account of the gods.

The discussion is apparently carried over from the previous day, where Socrates provided a "feast" of arguments for his four companions that appears to have been similar to what is recounted in the first few books of the *Republic*. Unlike the *Republic*, these discussions seem have been convened deliberately; there is no need either to compel or to persuade the philosopher to take up the discussion. At least the events of the *Timaeus* occurring on this second day were scheduled earlier and had a

---

[5] cf. 22a – 23b

definite guest list, which contrasts with the happenstance of many of the conversations portrayed in the Platonic dialogues.

The *Timaeus* differs from the majority of Platonic dialogues as it consists mainly of Timaeus' long speech about the *cosmos*, save for the initial dialogic "frame" that comprises roughly one seventh of the work. A reader must, then, attempt to pose the questions that Socrates 'neglected' to ask during the speech, thus transforming the speech into a sort of dialogue. Precisely why Socrates chooses not to interpose in Timaeus' speech is unclear; Socrates seems somewhat 'out of character' here, as we are told he is both beautifully clothed and eager to hear long speeches. This would seem to be un-Socratic behavior, and we might consider why this might be the case. His self-described *kekosmemenos* appearance recalls his similar adornment in the *Symposium*, a dialogue that also involved a succession of long speeches. This may point to an important connection between the two dialogues, though it should be noted that the praise of *eros* in the Symposium contrasts strongly with the treatment it receives from Timaeus. That the dialogue is composed principally of a single long speech may be partially due to its subject matter; as Timaeus expressly acknowledges before he begins, the epistemological status of his account is ambiguous – it is "a likely story". It may be that a rigorous testing of Timaeus' account would not allow it to 'get off the ground', as it were. Presumably, Plato has pedagogical reasons for allowing Timaeus to create a certain type of *cosmos* in speech, which might require Socrates remaining but a silent participant.

---

[6] As Lampert and Planeaux suggest (p. 107 ff.)

We soon learn that the speeches of the *Timaeus* are intended to repay Socrates for the speeches he recounted the previous day. This locution leaves it ambiguous whether Socrates recounted the character of the best regime himself in speech form, as Timaeus does here, or whether he narrated a previous dialogue similar to that of the *Republic*. From the little Socrates says by way of a "reminder", the discussion seems relatively similar to the early parts of the *Republic*, but it would be a radically incomplete summary of even the first five books. Socrates calls to our attention the separation of the warrior class from the farmers and artisans, the spirited yet "philosophic"[7] nature of the guardians and concomitant education of these qualities, and their eschewal of gold and silver in favor of "temperate wages". Somewhat surprisingly, we are also reminded of some of the radical innovations of Book V, including the equality of the sexes, familial communism, and the rigged lottery and class mobility required to maintain the worthiness of the guardian class. This may tie in to Timaeus' account, in that the people of his cosmos are almost entirely devoid of *eros*, and therefore the scheme presented in Book V of the *Republic* might actually work in Timaeus' strange world.

But this brief recapitulation of the previous day's discussion also exposes some rather large omissions from the *Republic* account. There is no rationale given for the construction of the best regime; that is, there is no acknowledgement of a challenge, such as that presented by Glaucon and Adeimantus in the *Republic*, to prove the superiority of the just life for an individual, this being the ostensible purpose of constructing a "city in *logos*". Timaeus' reasons for constructing his cosmos are at

[7] Presumably "philosophic" to the degree that a noble puppy is philosophic, as in *Rep.* (375c).

least as obscure, as it hardly seems essential for Critias to "receive" the men "born" by Timaeus in order to speak of the contest between Athens and Atlantis[8]. But surely the most significant omission is any mention of philosopher-king rule, which must be the most famous part of the *Republic*, with the possible exception of the similarly absent allegory of the cave. Indeed, all of the discussion pertaining directly to philosophy seems to have been omitted, and while this would not change the character of the regime constructed early on in the *Republic*, it removes the trans-political standard by virtue of which we are eventually to judge this regime. The account that we receive in the *Timaeus* seems to encourage idealistic political action – the very tendency that the *Republic* attempts to discourage. Because the dialectical relationship between city and soul is not posited here, Socrates' comments *sound* prescriptive, and the brief mention of the Book V innovations allows one to pass over their paradoxical aspects. This concern is intensified by noting the presence of a man named Critias, who may be the grandfather of the famous tyrant known to have associated with Socrates in his youth. Assuming that Socrates is not simply being irresponsible, there must be something about the character of his interlocutors that ensures they will not be tempted to try to institute this city. It seems this is the case for both Critias, an enthusiastic patriot who sees similarities between this best regime and the Athens of old, and Timaeus, who is more interested in the abstract questions of first philosophy than the practical business of founding a city. Insofar as the group is content with the most basic sketch of the 'city in *logos*', eagerly moving on to the questions of history and first philosophy, one might suppose their interest in these

[8] A recent translation of the *Critias* by Diskin Clay provides a nice illustration of this. Clay provides *Timaeus* 17a-27b as context, and then proceeds directly to the *Critias*. The resulting combination

questions to be mainly 'academic', and therefore the risk of political idealism is not a dire one. However, it would seem that Plato intends for us to consider the possible relations between the construction of an ideal city or cosmos in speech and idealistic political action, lacking the moderating influence of philosophy.

Following this summary of Socrates' earlier speech, Socrates asks whether they have "gone through things exactly as they were said yesterday" with respect to the chief points. "Or", he asks, "are we still yearning for something further in what was said, my dear Timaeus, something that's being left out?" Timaeus replies in the negative, and in so doing raises some questions about his philosophic interests. We are led to wonder if Socrates' speech of the previous day included the philosopher-king provision; if it did, it certainly did not make an impression on Timaeus. If it was left out, perhaps Socrates did so intentionally, having found the philosophic potential of his interlocutors wanting. Nothing in the 'summary' suggests that philosophy *as such* was any part of the previous day's story. Nevertheless, passing over the perplexities and omissions of Socrates' speech, Timaeus indicates that he would prefer to change topics and speak himself. Whether he does not see the complications inherent in the account Socrates has just presented, or simply does not care much about them is not immediately made clear. If one imagines Glaucon placed in a similar situation, as he is following the refutation of Thrasymachus in the *Republic*, the difference in the characters of these two men becomes clear. Glaucon's challenge for Socrates truly to persuade his interlocutors, rather than merely seeming to do so (*Rep.* 357a-b),

---

reads relatively smoothly, without any apparent gap. (Clay, pp. 53-97)

contrasts rather starkly with Timaeus' admonition not to search for anything beyond the "likely story".

Having established that Timaeus isn't "yearning" for anything further, Socrates reveals that he does have such a yearning. In progressing to "what comes next" in the account, Socrates asks his interlocutors to note "how [he happens] to be affected by it". Thus, the ensuing speech will both outline what logically comes next and answer to an 'affect' (*pathos*) that happened to afflict Socrates. This nicely foreshadows the incipient tension between rigorous, physical necessity and the passions and dispositions of human nature, which Timaeus often seems inclined to resolve in favor of necessity. He later tells us that the very cosmos was created by a "standing-together [*systasis*] of intellect and necessity" (48a). In the present case the two causes seem to 'stand together' without difficulty, so they proceed to consider this desire of Socrates.

Socrates' desire is to see the regime put into motion in some fitting struggle (*agon*), much as one looking on either paintings of animals or stationary live animals has a desire to see them move about. This dual simile is strange, as it blurs the distinction between actual objects and imitations of these objects, which he will soon emphasize with respect to the poets. One might ask whether Timaeus is directly imitating the cosmic animal he describes (37d, cf. 92c), or imitating a "painting" of it (i.e., does the cosmos only present itself as a "visible animal", per 92c, in the way that a painting of a centaur presents a centaur, in which case Timaeus' account is further removed from

the truth). In this connection, we might note that the philosophic discussion of poetry, wherein the dangers and deceptions of imitation were considered, was one of the 'philosophic' parts of the *Republic* missing from the summary of the earlier discussion. This is a formidable problem in the dialogue as a whole, because the entire *cosmos* comes to light as an imitation of an eternal model performed by the demiurge, and moreover, the gods create man after being instructed by the demiurge to imitate his actions in creating them (41c). Despite this importance, Timaeus never stops to clarify the Socratic question 'what is imitation', as Socrates does in the *Republic* (595c).

Socrates blames himself for not praising his city sufficiently, and likewise the poets, who merely imitate what they have been brought up on. He contrasts the poets with the sophists, who also speak beautifully but are not committed to any particular city, and for that reason tend to go astray in describing how "men at once philosophers and statesmen might act and speak when, engaged in war and battles, they acted in deed and engaged each adversary in speech". So neither the poet nor the sophist is qualified to speak about these matters; one needs to appeal to "the class (*genos*) that by nature and upbringing belong to both [philosophers and statesmen] at once", which he suggests includes both Timaeus and Critias, as well as the 'laconic' Hermocrates.

Timaeus hails from Locri, and Socrates praises him for his attachment to this "city with excellent laws" and for having risen to high office and honor there. This

prompts one to wonder about his presence in Athens; was it to visit Critias or Socrates, or to lecture publicly? Socrates says he has "reached the very peak of all philosophy", which may simply mean that he has been honored for this pursuit, or that he takes up the highest questions, not that he has adequately answered them. The praise Socrates bestows here would seem to imply that Timaeus had managed to reconcile his philosophical pursuits with civic life, and, moreover, in a regime with particularly strict laws. But this easy praise, coupled with his earlier lack of wonder at Socrates' speech, should give us pause. Timaeus can spin off long speeches on matters of first philosophy, but he hardly ever *wonders* about anything in the dialogue, unlike both Socrates and Critias. If we are to credit Aristotle's view that wondering is the root of philosophy, Timaeus' disposition is not itself philosophic and might actually stultify true philosophic inquiry insofar as it explains away wonder with "likely" accounts[9]. His contentment with likelihood contrasts starkly with Socrates' zetetic disposition, exemplified in his constant averring of ignorance. One can also interpret this comment as a recognition that Timaeus focuses his investigations on metaphysics, where the hierarchy of nature comes to a point[10]. The implication, therefore, may be that Timaeus has proceeded directly to the ultimate questions, but without sufficient appreciation of how they connect with human life. In any case, he does seem to lack the synoptic view one would expect from a true philosopher who would warrant such praise from Socrates. His concern with *the all* at times seems to be a sort of disguised reductionism, as is apparent in his first cosmic construction.

---

[9] He is particularly forceful about not seeking anything beyond the likely story. Cf. 26e, 29d
[10] Cf. Bacon "Wisdom of the Ancients", where all nature comes to a point atop Pan's horns

Socrates' praise of Critias, that he is "a laymen in none of the things we're talking about" is similarly dubious, and suggests an haphazardness to his studies. He also speaks highly of Hermocrates' "nature and upbringing", basing this assessment on public opinion. Hermocrates' immediate response, on the other hand, makes him appear calculating and politically astute. He denies having any pretext (*prophasis*) for acting contrary to Socrates' desire, thus tacitly acknowledging that there could have been such a consideration in effect. He also notes that both he and Timaeus are guests at Critias' house, reminding us of political concerns for hospitality and gratitude, and prompting us to wonder where this dialogue is taking place. Hermocrates' silence for the balance of the dialogue might, then, be politically motivated: a desire to keep from offending anyone. Nevertheless, Socrates praises his discussion partners in the same way he praises his polis, and possibly for a similar reason. The question remains, however, as to why Socrates is inclined to discuss these matters in this way rather than through genuine dialogue or private investigations.

Having heard Socrates describe his 'desire' to hear speeches about the just city at war, Hermocrates suggests that Critias repeat a story which would seem to fulfill this desire. And so, to gratify both Socrates and Hermocrates, Critias begins to recount the story of Solon's trip to Egypt and the historical account he received from the priests there. One can almost hear the excitement in Critias' voice as he eagerly narrates his "most strange" and "wondrous" tale. As noted above, this stands in

marked contrast to Timaeus' somewhat tired and occasionally pedantic tone. Critias ties the relatively distant event to the present through a genealogy; he traces out the past in terms of human lives which are linked together through familial relations. This would seem contrary to Timaeus' approach, which builds up the cosmos independent of human presence, and ushers in human beings as individuals devoid of *eros*[11]. Critias' story relies upon the memories of successive generations and the distinctively human desire to pass such stories on and to listen to accounts of the past. This highlights the importance of the poets as makers of beautiful stories; someone actually lamented the fact that the great Solon had let his poetic talents languish in order to pursue a tremendously successful political career (21c). Passing stories down through the generations in this way keeps them relevant and interesting, but there is the risk of having one's knowledge of important events die out with the poet. Solon notes that an account of "the greatest and most justly famous action" of Athens was almost eradicated by the death of those involved. Only his fortunate memory kept this event from becoming entirely lost to the Athenians.

The Egyptians Solon met are not subject to this type of uncertainty in the preservation of their history, and they chide Solon for his relative "childishness" on this score. They explain that their historical knowledge is made possible by the fortuitous location of their city, which was protected from the destructive fire and water that periodically assails most areas of the earth and thereby destroys human beings and their stories alike. The Egyptians ascribe both the destructiveness of the cosmic events and their own protection from them to natural causes alone, specifically the

[11] Consider how women and sexual intercourse are explained in Timaeus' account (cf. 90e)

behavior of the heavenly bodies, thus anticipating Timaeus' somewhat different explanation. There is no divine providence in action here; indeed, the Egyptian priest is eager to disabuse Solon of the mythic account that attributes droughts to Phaeton's mis-piloting of the sun-chariot. They seem to view myth as not merely false, but as childish and without redeeming value. If challenged to prove the truth of their account, the Egyptians could at best point to their extensive historical records of natural phenomena and the 'empirical regularities' induced from them – their account has the status of correct opinion. In their zeal to 'demythologize', however, the Egyptians overlook the political and psychological purposes myths can serve, providing a people with a shared view of the cosmos and their place within it[12]. The Egyptian approach stultifies the childlike wonder of the Greeks typified by Critias, instead making their studies "hoary with time". The priest who speaks to Solon, described as "one of the very oldest", seems to view older as necessarily better. There is no indication that he recognizes a teleological growth towards a prime of human nature followed by an inevitable decay in either body or soul. As an intellectual honored for his old wisdom, he would likely have a disproportionate concern with intellectual matters at the expense of the body. It should be remembered here that, according to Critias' story of the Egyptians' own account, the Egyptians are saved from a military threat by the Greeks, who train their bodies in preparation for war.

This theme of agedness and antiquarianism bears comparison with Nietzsche's *On the Uses and Disadvantages of History for Life*. In Nietzsche's terms, the Greek

[12] cf. *Republic* 382c-d

"childishness" comes from the judicious use of "monumental history", the inherently inspiring form of history that speaks of prior greatness and thereby insinuates that greatness is still possible for the future. By contrast, the Egyptians are sated with the antiquarian mode, an excess of which has the harmful effect of making one feel like an epigone. It seems clear that Critias' story is itself an example of monumental history, while the status of Timaeus' account is less apparent. As an account of the whole of things, and perhaps one that encourages man to act within it, it may have the effect of creating what Nietzsche calls a "bounded horizon", but this would not necessarily be an improvement on the standard mythic accounts. There seems to be a constant danger of "ossifying" the world when speaking about the whole, and Timaeus occasionally appears to fall subject to this tendency. This partially explains the presence of the Egyptian story in this dialogue ostensibly about nature. Plato may intend it as a warning to those inclined to naturalistic explanations: philosophize about the cosmos if you will, but do not reduce it to a sterile catalogue as the Egyptian priest does.

The priest's initial comments apparently piqued Solon's interest, perhaps stirring a desire similar to that of Socrates, and he veritably begged the priest to recount for him "with precision and in order, everything about his fellow-citizens of old". The priest accedes to his request, citing three reasons: he will tell the story not only for Solon's sake, but also for the sake of his *polis* and for the goddess Athena, who represents a link between the two sister cities of Athens and Saïs. The first two reasons could be due to gratitude for Athenians' valor in their common defense, but offering to speak

"for the sake of the goddess" is rather surprising. One might have expected this Egyptian, priest though he may be, to look down upon the childish Greek conception of its patron goddess, and either be an atheist or have his own more 'refined' divinities. Also puzzling is the priest's assertion that Athens was founded with the providential aid of the goddess, whereas his own *polis* was saved from natural disasters by the Nile. Perhaps the priest recognizes something that rings true about this goddess, lover of both war and wisdom, without actually believing in the myth. He might also be concerned to flatter Solon by attributing his city's founding to a goddess, and to put forth a divinely sanctioned link between the sister-cities of Athens and Saïs, which would suggest some political astuteness on his part. Alternatively, his belief might be attributable to a need for some theological account to fill the lacunae in his naturalistic views. Plato, however, clearly intends for us to reflect on the nature of this goddess and how relating the story of Athens' contest with Atlantis is pious to this particular deity.

The account begins with a summary of the laws of the supposed former Athens. Critias had earlier said that he noticed great similarities between these laws and the account of the best regime Socrates provided on the previous day. From the description we get, however, the connection seems quite tenuous. The separate class of priests obviously does not square with the account in the *Republic*, and reminds us of the absence of both priests and the virtue of piety in the *Republic* account. Further, those things which "accrue to human things from those that are divine, down to divination and medicine" seem oddly out of place, considering the treatment of these

arts in the *Republic*. The similarities Critias recognizes seem to be the separation of the warrior class and the 'one man – one art' principle. We are provided with only the briefest summary of the regime's laws, despite their being responsible for the production of "those who were the offspring and pupils of gods", and who "surpassed all mankind in every virtue". Instead, the account turns to the deeds of this regime: Critias gives a brief summary of the threat from Atlantis and the reaction of the Athenians. It is worth noting that the conclusion of the account, which has both armies destroyed as Atlantis sinks beneath the sea, is due to a natural disaster that does not discriminate between the two combatants, and thus renders human virtue ultimately irrelevant. This natural means of destruction, coupled with the incompleteness of the *Critias* (in which we were to receive the fuller account), occurring at the very moment when Zeus would speak, leaves the divine support for justice an open question at best.

Thus Critias concludes his 'abridged version' of the events of Solon's journey, admitting that he was "struck with wonder" at the "divine quirk of chance" that made this story similar to Socrates account of the ideal regime. As Kalkavage notes[13], this conflation of the chance and divine work is very strange; does he perhaps believe that the supposed acts of the divine are actually attributable to chance, making his view closer to that of the Egyptian priest? Or perhaps he holds the opposite view, that seemingly chance happenings are actually directed according to the whims of the

[13] p. 56 n. 12

gods[14]. In any case, after noting this similarity, Critias attempted to remember the story on his own before speaking up. Though he lacked the written record that would have made his mnemonic effort unnecessary, he benefited from the natural acuity of childhood memories. The vividness and indelibility of memories made during early childhood seems to reflect some natural support for education, the most important aspects of which occur early on in life. This stands in contrast to the Egyptians' dependence on the seemingly artificial device of written records[15]. Critias' memory is further aided by "pleasure and boyish delight"; one might ask whether the Egyptian cataloguers experienced any comparable pleasure, and also if Timaeus' later physiological explanation of pleasure as a 'return to natural condition' (64d) could account for Critias' experience here. Critias also mentions many questions he had asked at the time, which may suggest that the give and take of dialectics can have beneficial effects on one's memory.

At this point, the participants must decide whether to pursue Critias' suggested examination of the story he has just recounted. Critias takes the lead once again, asserting the identity of the prior Athens with Socrates' best regime rather categorically:

> I'm ready to speak, Socrates, not only on the chief points but also in all the particulars, just as I heard them; and as for the citizens and the city you went through for us yesterday as though in a story, we, having now carried them here into the truth, shall set down this city as being this

[14] Compare Aristotle *Physics 196b* "There are others to whom it seems that fortune is a cause, but one not disclosed to human understanding, as though it were something divine and more appropriate to miraculous agency".
[15] *Phaedrus* 274e ff.

> very one I was talking about; and we shall declare that the citizens you had in mind are those true ancestors of ours about whom the priest was speaking. In all ways they will fit one another, and we will not sing out of tune in saying that they are the very ones who existed at that time. (*26c-d*)

Critias appears to be laying down the law here, "setting down" the two cities as equivalent and "declaring" the citizens of Socrates' speech *are* actually their distant Athenian ancestors. Having already noted the rather feeble link between the two accounts, we might ask what prompts Critias to this conclusion. In this connection we should remember that the two accounts are of different ontological types; one is an historical account (which Critias is eager to call "truthful"), and the other is a model reasoned out in *logos*. Reconciling the two accounts is analogous to the task Timaeus sets for himself, which involves giving a reasoned account of phenomena for which an historical report is simply unavailable. Critias' problems in forcing together his two accounts show that this process is not entirely straightforward, even when both accounts are available. His categorical assertion of their identity, framed in overtly political language, suggests that this "harmonization" may itself be confined to likelihood rather than rigorous truth, and may need to be manipulated for political purposes. Socrates plays along with Critias here, ironically asking "what account, Critias, might we get hold of instead of this one"? He further praises Critias' description as "no fabricated story but a truthful account", and asks, "How indeed, and from where, shall we discover other accounts if we dismiss these"? Socrates' apparent praise of the "truth" of Critias' story carries with it the implication that the account contains historical accidents; it is an account of what actually happened. By contrast, the city in *logos*, although not strictly "truthful", can be constructed utterly

devoid of historical accident. Ideally, it can exhibit 'logographic necessity'[16], whereas even the most exemplary real-life regimes contain some accidental features, which one who hopes to learn from them must recognize and evaluate. The answer to Socrates' question of "what other account" is almost too obvious: there is much work to be done on the city in *logos* roughed out on the previous day, and had Timaeus the desire to persist in that exploration they might have come up with a model approaching that of the *Republic*. The ironic dismissal of "fabricated stories" notwithstanding, such a model can teach one much about the world; indeed, the divine craftsman apparently looked to "a model" (*paradeigma*) of some sort in his construction of the universe.

Critias continues to lead the discussion by assigning the topics and order of the speeches, while Socrates promises to "keep [his] peace and listen in turn". Critias singles out Timaeus for the speech about 'the all' owing to both his nature and nurture – he is both "the most astronomical of all of us" and "the one who's made it his main job to know about the nature of the all (*to pan*). This assessment is no doubt flattering to Timaeus, who seems often to conflate astronomy with cosmology and therewith philosophy, and sees inquiry into "the all" on these terms as a superior study for an intellectual such as himself. In considering the uses of sight later on in his speech (47ab), Timaeus suggests that this sense conveys the greatest benefit because it allows us to look at the heavens, thus giving us "a kind of philosophy". His views on this point appear similar to Glaucon's second justification for the study of astronomy in the *Republic*; that it "compels the soul to see what's above and leads

[16] cf. *Phaedrus* 264b-c

it there away from the things here" (528ea). Socrates balks at this rationale, politely protesting that "as it is taken up now by those who lead men up to philosophy, it has quite an effect in causing the soul to look downward". He goes on to note that it is the soul that must "look up", and not the eyes, which seems to contradict Timaeus' view, which here goes unchallenged. Socrates' interest in astronomy appears to stem from the beauty and precision of the cosmic motions, but he subordinates this study to geometry and finally decides to "let the things in heaven go". The final assessment of astronomy seems to bear directly on the plan of the *Timaeus* and Timaeus' psychic character:

> ... don't you suppose that a man who is really an astronomer will have the same persuasion in looking at the movements of the stars? He will hold that the craftsman (*demiurge*) of heaven composed it and what's in it as beautifully as such works can be composed. But as for the proportion of night to day, of these to a year ... and of the rest of the stars to these and to one another, don't you think he will consider strange the man who holds that these are always the same and deviate in no way at all? For these things are connected with body and visible. Hence won't he consider it strange to seek in every way to grasp their truth? (*Republic 530a-b*)

Timaeus, ostensibly a Pythagorean who accordingly one would expect to agree with the primacy of geometry over astronomy, seems surprisingly akin to the 'strange man' mentioned above. He does break the cosmos down into four elements which are described geometrically, but his infatuation with *the all* and astronomy are somewhat out of place. Timaeus' demiurge looks to a perfect and supremely beautiful model in constructing the cosmos, while Socrates' version merely makes it as good as it can be. It is important to bear this difference from the *Republic* in mind when trying to assess both the dialogue as a whole and Timaeus' part within it.

Critias bids Timaeus to speak first, prompting us to question in what sense the events Timaeus will describe are primary. Timaeus' chosen topic is what Aristotle calls "first philosophy", but Aristotle makes it explicit that the things that are first by nature are not necessarily first for human beings. On the Aristotelian account we are to work from what is primary for us, our experience in the world, towards nature's first principles. Thus, a consideration of these first principles would necessarily come last in time, having been induced from one's experience of the world. One could perhaps say that an historical description of the cosmos would place it first, but unlike Critias' story of Solon in Egypt, an historical account of the formation of the cosmos is impossible. Critias seems to have inverted the proper order of speeches, unless they are stating conclusions from previous deliberations. This might explain why the dialogue is structured as a series of speeches, bespeaking a desire to state conclusions rather than investigate the issues together via the dialectic method.

CHAPTER II: BUILDING THE COSMOS

Timaeus' 'Prelude'

Having been invited to speak by both Critias and Socrates – and reminded by Socrates to call upon the gods – Timaeus begins his speech about the nature of "the all". Possibly because of Socrates' pious reminder, Timaeus gives a brief summary of his intentions and assumptions before continuing on to the actual "likely story". Timaeus eagerly accedes to this proposal, agreeing that "all men who partake of even a bit of sound-mindedness always call upon a god". While Timaeus' true views on the customary deities are not clear, one wonders if the "sound-mindedness" to which he refers is out of any genuine concern for divine retribution, or instead out of awareness of the potential political consequences of his unorthodox views. He does eventually give a genealogy of the Greek gods (40e-a), but they are lesser in power and importance than the demiurge, to whom they owe their very existence and who retains the power to dissolve them (41b). Timaeus appears to recognize that metaphysical speculations are inherently impious, since they bring questions of theological import before the bar of human reason. He is thereby willing to accede to the "necessity"[17] of calling upon gods, goddesses, and any other convenient deities that will help him avoid scrutiny. After his invocation to the gods, Timaeus goes on also to invoke "what has to do with ourselves", which seems somewhat less pious than asking God to give one strength, and reveals what Timaeus believes will truly be responsible for a successful discussion.

The first distinction Timaeus draws is between being and becoming, but he states this as his "opinion" of how one must begin. This immediately raises the question of whether there is a plurality of possible beginnings for an account of the whole. On the Aristotelian view, presuming one has reasoned correctly, there is only one such beginning possible. However, if Timaeus' purpose is not a synoptic view of the cosmos, but rather a "likely story", his mode of beginning may be determined by the character of his audience as well as the truth of things. In drawing a strong distinction between being and becoming, Timaeus momentarily disguises the supremely complicated interrelation of these two concepts, and the fact that an account of the origin of the universe must necessarily bridge this gap. Timaeus identifies being with intellection and *logos*, while becoming is said to be "opined by opinion accompanied by irrational sensation". This makes his "opinion" to proceed in this way all the more puzzling. He also emphasizes causation at this point, again seeming to overstate matters when he says "apart from a cause, it is impossible for anything to have a *genesis*". Is not the uncaused cause precisely what is at issue in the creation of the universe? Both of these distinctions implicitly point to the epistemological problems in giving an account of the birth of the cosmos, hence, to what may always remain mysterious.

---

[17] This recognition of political necessity should be compared with the physical necessity that abounds in the later speech.

Timaeus' solution to this problem is the introduction of the divine craftsman or demiurge, who is brought into the account rather matter-of-factly[18]. He represents the connection between being and becoming, but Timaeus can say little about who or what this entity might be. Timaeus admits that "to discover the poet (or maker; *poetes*) and father of this all is quite a task, and even if one discovered him, to speak of him to all men is impossible". That is, we may simply lack access to the actual genesis of the universe, and the "craftsman" idea amounts to a convenient placeholder. Timaeus recognizes the deleterious political effects of such a divinity; most people preferring Hesiod's Theogony to the idea of the cosmos as a divine do-it-yourself project. Instead of dwelling on the nature of this peculiar deity, he focuses on what type of model the demiurge looked to in fashioning the cosmos. A constant, being-based model would result in a beautiful world, while a "begotten" model would not produce such an ordered whole, and would point beyond itself to whatever 'begot' it. "If", Timaeus concludes, "the cosmos here is beautiful and its craftsman good, then it's plain he was looking to the model that was everlasting". The provisional nature of this statement should be emphasized – how would one ever go about testing these assumptions? Timaeus refuses even to entertain the notion that the preceding conditions are not true, since it "isn't even right for anyone to say". This recognition shows that Timaeus may have some political astuteness, while further calling into question the sincerity of his religious beliefs (he could have said "it isn't pious"). After momentarily entertaining this doubt, he declares categorically that the universe is "the most beautiful of things born, and its craftsman the best of causes" (29a).

---

[18] As Kalkavage notes p. 58 n.15

The final part of Timaeus' "prelude" deals with the epistemological status of his ensuing speech. He says there is "every necessity" that the cosmos be a likeness of something, but does not specify any rationale for this assertion. Timaeus is therefore building his own model in speech of a universe that was itself a material imitation of an eternal model based in intellect, which places him three times removed from the form[19]. He also notes the need to find a beginning in accordance with nature, but it is difficult to see how nature could serve as a standard when one is seeking to explain the genesis of the entire cosmos. Discerning, if not stating, the epistemological problems bound up with his project, Timaeus reconciles himself and his listeners to a "likely story". He warns that "we may become incapable of rendering speeches that are always and in all respects in agreement with themselves and drawn with precision"; that is, both coherence and correspondence may suffer in his treatment of these issues. He will, however, be satisfied with accounts "inferior to none", since the human nature of himself and his listeners limits their power to discover these things. For this reason, he councils the group to "receive the likely story" and "not to search further for anything beyond it". This approach contrasts rather strongly with the philosophic disposition, which also acknowledges the limits of human reason yet strives for wisdom irrespective of its ultimate attainability.

The Construction of the Cosmic 'Animal'

[19] cf. Republic Book X

Timaeus thus begins to describe "through what cause the constructor constructed becoming and this all". He takes it as given that this constructor was good and that he bore no "grudge", thereby ruling out the possibility of a jealous god. This squares with the reformed gods of the *Republic* insofar as they are unchanging cause of good things, and differs from the traditional Greek theogony, which Timaeus reluctantly introduces later on (40ea), making them strictly subordinate to the demiurge. Because of his goodness and goodwill, the demiurge wished to make the cosmos good to the greatest extent possible, and therefore "brought it into order from disorder". This concern with goodness almost immediately becomes a concern for beauty (or nobility), and the demiurge soon "calculates" that things possessing intellect are more beautiful than unintelligent things. This leads him to construct "intellect within soul and soul within body", thereby fashioning "a work that would be most beautiful and best in accordance with nature". This implies that natural standards of beauty and nobility exist prior to the birth of the cosmos, perhaps represented by the "model" to which the demiurge looked in creating it. Timaeus concludes, again with the qualification of "the likely account", that the cosmos "was born an animal having soul and intellect through the foresight of a god". We are meant to ask in what sense is this creation *an animal*, and Timaeus turns next to this issue.

Timaeus treats the cosmos as the complete animal, of which all the other animals are parts. Completeness is a prerequisite for beauty, perhaps in the same way that "nothing incomplete could ever be the measure of anything" (*Rep 504c*). This

principle of completeness carries as an implication that there is only one cosmos, because if there were two or more of them, the true cosmos would be that which encompassed them both. Timaeus next considers the elements that comprise this cosmos, suggesting that fire is responsible for its visibility and earth for its tangibility. Air and water are required as "middle terms", to bind the fire and earth together in a way analogous to mathematical proportions, and this arrangement is also defended in terms of its superior beauty. This arrangement privileges fire and earth over air and water, a fact that is later reflected in the respective dignities of the animals dwelling in these elements (91d-92c).

The completeness of the cosmos also implies that it is perfect to the greatest degree possible, thus making it "free of old age and disease" and impervious to heat, cold, and other mighty powers. Timaeus does not say that the cosmos is deathless or immortal, presumably because the demiurge retains the power to undo his previous work in constructing it. The cosmos is shaped into a sphere, since it is "most perfect and similar to itself", and the demiurge "considered that *similar* is vastly more beautiful than *dissimilar*". This justification is somewhat strange; while close relation between symmetry and beauty seems clear, it does not seem to hold for the erotic attraction of opposites. This comment appears indicative of Timaeus' tendency to ignore or even disparage *eros*. Much like the men in Aristophanes' speech in the *Symposium*, the cosmos is a complete whole that has no erotic longings. Furthermore, it has no need of sense organs or appendages, since there is nothing outside of it to be observed or acted on. Its motion is the most perfect type, rotation

about its own axis, and it suffers none of the six 'wandering' motions that are lesser in perfection and dignity. This discussion of the cosmic body contrasts directly with the later explanation of the human form, and serves to accentuate the relationship between our morphology and finitude. Perhaps in contradistinction to our human status, the demiurge calls his self-sufficient cosmos a "happy god", whereas the human potential for happiness remains an open question.

Turning to the construction of the cosmic soul, Timaeus notes a potential problem with his account; having explained the cosmic body prior to the soul, he might be giving the impression that body is older than soul, and thereby implying that the older body is ruled by a younger soul (34c). Timaeus explicitly denies this, citing the influence of "the accidental and random" in his speech. This seems to deny the possibility of speech to eradicate the accidental aspects, thereby attaining to more truth than actions (*Rep.* 473a). It also raises an important question as to why Timaeus was constrained to speak about the cosmic body first. Is there perhaps a psychological rationale for why the account of body precedes soul, and is this merely a prejudice, or does it imply something important about the interrelation of these two ontologically distinct entities? One might even suggest that the imperceptible is only understandable by analogy with the perceptible realm, and that this constrains our ability to both think and speak of these issues. Passing over this difficulty, Timaeus simply declares the soul to be "prior to the body in both birth and excellence" and the elder of the pair.

Timaeus explains the construction of the cosmic soul out of a mixture of "Being", "Same", and "Other", though no real explanation of these things is given. The substantive discussion is on the various partitions made to this mixture; that is, on the form of the soul rather than its 'matter'. Through a series of mixtures and divisions of precise fractional quantities, the demiurge forms the intervals of the Pythagorean musical scale, thereby providing a basis for the harmonic "music of the spheres"[20], and later for a like harmony in the human soul, introduced through education. Timaeus then explains how the soul mixture is split into two strips which are then attached together, forming the paths of the celestial equator and the ecliptic.

Following the construction of the soul, the demiurge builds "all that is bodily in form", and proceeds to join body and soul "center to center". Timaeus emphasizes the fact that body is visible, while soul is invisible, partaking of calculation and attunement. The path of the Other appropriates opinions and beliefs that are "firm and true" from sensation, while the Same deals with "what is rational", thus bringing about intellection and knowledge. After completing the construction of this soul, the demiurge was relatively pleased, but wished to make it "still more similar to its model". As this model "happens to be an everlasting Animal", the demiurge contrived time, "a moving likeness of eternity", so as to make his cosmos more similar to the model. The sun, moon, and planets have come into being in order to "mark off" and "guard" time. This discussion of time leads Timaeus to clarify the difference between being and becoming, noting the linguistic ambiguity of locutions such as "was" and "will be", which actually refer to processes of becoming. Having

[20] though this music is inaudible on Timaeus' account – cf. 37b

noted the purpose of the heavenly bodies in demarcating time, Timaeus chooses to pass over a more extensive discussion of the minor heavenly bodies, which he calls a "side-job" to be considered "when there's leisure for it".

Thus, Timaeus would have us understand the visible bodies of the heavens as an intricate visible manifestation of the world soul, structured by the two sovereign principles of "Same" and "Other". In order to make this order manifest to those able to appreciate it, the demiurge sets the Sun alight, and this allows some animals to "partake of number" by observing the circuit of the Same. The orbits of the heavenly bodies explain the day, month, and year, Timaeus notes, but human beings have been inattentive regarding the other stars, and do not understand that "the wanderings of these bodies are time".

Timaeus next turns to the parts that make up the cosmic animal, which were prescribed to the demiurge by his intellect. There are thus four forms of animals, each form being associated with one of the four elements that make up the cosmos. The divine form, "most brilliant and beautiful", is fashioned out of fire and spread around the whole of the heavens. The members of this form exhibit that best form of motion, rotation, as well as forward motion along the axis of the Same, but are not sullied by any of the other, less perfect motions. The multifarious relative motions of these stars appear as "terrors and portends" to "men unable to calculate", whereas the astronomical Timaeus is not subject to such foolish fears, since he recognizes that their movement is actually orderly and predictable.

Timaeus' treatment of the standard Greek theogony is very brief and somewhat equivocal. Regarding "the other divinities (*daimones*)", Timaeus demurs from explaining either their birth or nature. He states that such an account is "beyond his power", and we must therefore be persuaded by the traditional accounts, "follow custom, and trust them". Considering the confident manner with which he spoke of the very creation of the universe, this sudden shift to agnosticism and credulous acceptance of traditional accounts is rather suspicious, and might lead one to wonder about Timaeus' sincerity here. His supposed acceptance of the "other divinities" may actually be done out of a desire to seem pious and avoid directly contradicting the traditional account. He quickly lists a brief genealogy of the Gods up to Zeus and Hera, and alludes in passing to other siblings and offspring. The goddess Athena, who had a prominent role in the discussion preceding Timaeus' speech, is not even mentioned here. It is worth considering what the effect of this apparent replacement of the Olympian gods with a demiurgic creator might be. Instead of the jealous, meddling gods portrayed by Homer, we are given an artisan acting little more than a prime mover, whom we are assured "bore no grudge" in creating the cosmos.

Following this brief acknowledgement, the traditional gods are dismissed as the demiurge speaks to the "gods of gods", presumably the ones that Timaeus first described. The demiurge tells his newly crafted divinities that they are virtually immortal, vulnerable only to his own desire to dissolve them, which he assures them his good nature would never allow. He presents them with the task of bringing forth

the three remaining mortal kinds, since failing this, "heaven shall be imperfect". He is not himself able to create human beings, because, were he to do this, the resulting mortals "would be made equal to the gods". He is apparently unable to produce purposely flawed work, even given that the less perfect, mortal types are needed to complete the cosmos. Thus the demiurge is directly responsible only for the creation of the best mortal kind, and delegates the construction of the lesser types. Furthermore, the gods to whom this task falls create only the land-dwelling human form, allowing the lower forms to emerge out of the decline of this best kind (91d ff.). The fact that the creation of human beings is explicitly treated as an imitation (41c) of the demiurge's work should lead us to ask about the status of this imitation, especially considered in light of the blame applied to imitation in the *Republic*.

CHAPTER III: AN 'INTERLUDE' ON HUMAN NATURE

Although he does not create the human form himself, the demiurge is directly responsible for the mixture of ingredients of the human soul, which he then portions out to the gods for implantation in body. This seems to give divine force to the superiority of soul over body, and the immediately ensuing mention of the two-fold character of human nature appears to confirm this. The human soul is comprised of the same "materials" as the cosmic soul – "Being", "Same", and "Other" – but their substantive character remains as mysterious as before. The demiurge makes a 'fresh batch' of this soul mixture, forbearing to use the left-over portion of the world-soul mixture for the human soul. This suggests that human souls are distinct from the world-soul, although they 'work' in the same way, being formed of the same mixture of the same materials. It seems the demiurge does not do as good a job as should be possible, resulting as it does in a product of "second and third degree of purity", which he then portions into individual souls equal in number to the stars. Even though the world-soul and human souls are made in distinct lots, there does seem to be a correspondence between the two types of soul, which is evident in the implied relationship between heavenly stars and earthly human souls.

Prior to handing over his newly minted souls to the lesser gods, the demiurge shows them "the nature of the all" and explains the process of their ensuing birth. Each will receive the same birth for their first life, such that none of them will have cause to feel slighted by their divine allotment. Their subsequent fortune depends on their comportment in their first and subsequent lives, for which the god bears no blame. Thus the demiurge, as well as the cosmic order he creates, is eminently just to the original human beings, giving each soul an equal opportunity to master its bestial elements and thereby earn the privilege of returning as a man, rather than a woman or animal, in its next life. Simple equality is the only relevant principle of justice here, there being no basis for just discrimination between the souls, which are ostensibly formed identically to one another. While this explanation does lend natural support to the rule of husband over wife, it does not seem to explain the manifest inequalities *amongst* men, as does, for example, the Myth of Er in the *Republic*. Timaeus says that these souls grow into the most "god-fearing" of animals, which is surprising given the replacement of the Olympian gods with the benign demiurge and star-gods. Human beings are the only animals who are able to fear gods, but this fear would seem to be unjustified on Timaeus' view of the cosmos.

This initial account of the human soul concludes with a recognition of the two-fold character of human nature, the better part eventually being called man (*aner*). This may simply mean that the human form of being has both high and low aspects, and that it is the high ones that are truly to be associated with man. Timaeus' use of the word specific to males, especially masculine men, instead of the inclusive term

"human being" (*anthropos*) may point to another interpretation, in one sense more obvious but also somewhat more radical. He may be suggesting that, while humanity is comprised of male and female forms, man is naturally superior to woman. This remark points to an issue of surpassing significance in interpreting the dialogue and, *a fortiori*, for any philosophic psychology that aspires to at least minimal adequacy. Bracketing for a moment his unexplained hierarchical ranking, Timaeus is surely right that there is a radical break in human nature between *male* and *female*. This disjunction is a formidable obstacle to gaining an understanding of human nature as a whole, since the entirety of one's experience is confined to that of a particular sex, and one's interpretation of this experience might even be colored by male or female psychic traits. For this reason, a psychology that depends on scrutinizing one's own experience, however carefully and thoroughly this is done, will always necessarily remain inconclusive. Implicit in Timaeus' account is the view that women are simply incomplete men, lacking in the spiritedness associated with manliness (cf. 90e), but in order to know this he would still have to study the female soul. The fuller account might be pieced together through suitably rigorous and honest conversations between men and women, but some things seem guaranteed to remain mysterious. A complete account would have to derive or deduce differences in soul from physiological differences between the two sexes; that is, a more serious version of Timaeus' mythic account of the soul's location (cf. 70a). Of course, this presupposes a suitable understanding of the mind-body problem, which Timaeus is content to either side-step or mythologize.

Given the scope and importance of this issue, it is perplexing that Timaeus is willing to declare, apparently without justification, that man is superior, and to suggest that women emerge from the souls of unmanly and unjust men (90e). This would seem to dissuade one interested in the human psyche from seeking out female dialogic partners, thereby condemning one to a partial understanding of the human soul[21]. Moreover, if the female form is to be considered the cosmic punishment for cowardice and injustice in a previous life, the timocratic natures drawn to philosophy will hardly look upon women as worthy discussion partners. Whereas Socrates is unashamed to admit of having learned from women like Diotima and Aspasia, one can hardly imagine Timaeus doing likewise.

It is necessity which dictates that the mortal soul must be implanted in body, and one might again wonder about the precise meaning of "necessity" here. Is this necessity of a kind with the necessity of calling on a god that Timaeus recognized earlier (that is, conditional necessity typical of prudence), or is it the necessity that is later opposed to "intellect" (48a)? It is clear from Timaeus' account that man is a flawed product from the beginning, but this imperfection might be a necessity imposed by the demiurge's model, which makes the cosmos as a whole more beautiful[22]. The fact that the demiurge is able to construct the human soul independent of body – and indeed take these souls on a tour of the cosmos before they are implanted in body –

[21] The 'punishment' of a female birth is given for "failing to live well" (42c), or being unmanly/cowardly and unjust (90e); that is, on moral rather than intellectual grounds. Thus, there is no reason to expect on Timaeus' account that women would be less skilled interlocutors. But if their nature can be understood as a simple decline from masculine excellence, there being no distinctive characteristics of the female soul, then there would be no need for a man to consult a female perspective to obtain a complete view of the soul.

suggests that it is not physical necessity that dictates soul must exist in body. But in artificially separating body and soul in this way, Timaeus implies that soul in its pure form is passionless and devoid of appetites.

Timaeus describes the various affects of bodily instantiation as a series of challenges to the purity of the soul. First come sensations arising from "forceful affections", this presumably being the physiological basis of the appetites. These are followed by "erotic love mixed with pleasure and pain", and it is telling that Timaeus considers love as a mere affect on a par with pleasure and pain. For Timaeus, *eros* is a strictly bodily phenomenon; there is no erotic striving of the soul for either truth or beauty on his account. Though he does later state that theorizing about being and becoming brings about "a pleasure not to be repented of" (59d), there is no indication at this point that such pleasures are possible, or are at all connected with *eros*, and this ambiguity remains even in his more expansive treatment of human nature towards the end of the dialogue.

The third and final challenge to the purity of the soul comes about from terror and anger/spiritedness (*phobon kai thumon*), and this is by far the most perplexing of the list. It is, after all, spiritedness that allows one courageously to confront one's fears; indeed, they seem almost diametrically opposed. This also differs from the later 'physiological' account of the soul, where Timaeus speaks of the victory-loving part of the soul that partakes of "courage and spirit" (*andrias kai thumou*), which is to

[22] Perhaps similar to Leibniz's view that evil in the world is like dark parts of a beautiful painting (*On the Ultimate Origination of Things,* in *Philosophical Essays*, p. 153).

make common cause with the rational part against the "class of desires" (*epithumion katechoi genos*) in similar fashion to the *Republic* account. Timaeus does, however, justify his association of terror and anger by including along with them "all such things that by nature tend to be contrary and set at odds with each other", and this elaboration allows us to grasp Timaeus' meaning immediately. In his desire to contemplate the all without external restraint, Timaeus exhibits a disposition not unknown amongst intellectuals either in his time or ours: a surpassing desire to 'avoid conflict' in whatever form it may take. The discord that is implied in human relations of any sort, and *especially* in political life, clashes with Timaeus' urge to harmonize, and is therefore disagreeable to him.

True to his nature as harmonizer, Timaeus concludes that these (male) humans must *master* the troublesome passions and dispositions just mentioned; to do so is to live in justice, to fail in this injustice. Those humans who successfully master themselves in this way are granted otherworldly bliss, returning to the "dwelling of [their] lawful star" for a happy life. The unjust men, on the other hand, are reincarnated as women and may eventually devolve into animals, should they still not refrain from foolishness and injustice. It is somewhat ironic that, for all the importance Timaeus places on the soul, the punishment for injustice is an extraneously imposed alteration in *bodily* form. It is apparently not sufficient for Timaeus to declare that one gets the soul they deserve, as Socrates presents it in the *Republic*; bestial souls are to be made manifest in bestial bodies. This arrangement also presupposes human free will, if the consequences for just and unjust living are themselves to have any claim to justice.

Timaeus never explains how free will might arise in a cosmos otherwise explicable as matter in motion, but his account does seem to presuppose its existence.

In this way, the human form comes to light as a challenge to the soul's good condition. Timaeus gives us a picture of the soul not unlike Socrates' image of the statue of Glaucus (*Rep* 611b), suggesting that the soul is overgrown with detritus that must be stripped away for it to reach its "first and best condition". In the *Republic*, however, we were to recognize the pure element of the soul as love of wisdom, whereas in Timaeus' account reason serves a more utilitarian purpose. Reason allows one to organize the multifarious components of the soul and draw them around the "circuit of the Same and Similar", thereby making the soul resemble the ordering of the heavens.

Regarding the construction of the human body, Timaeus emphasizes the fact that the lesser, "young gods" bear responsibility for this part of creation. Interestingly, he also makes these subordinate gods responsible for "whatever was left over of human soul that still had to be added, along with all that this entailed". This provides the demiurge with an 'out', as he is blameless not only for the corruptible human body, but also the lower parts of the soul – the preceding list of the "necessary" consequences of bodily instantiation are attributable to the lesser gods rather than the demiurge.

The lower gods take up this work out of filial obedience, imitating their own construction with a few important differences that suggest the cause of human mortality. Firstly, lacking the demiurge's ability to create matter, they must borrow portions of the four elements from the cosmos, which implies that the debt must eventually be repaid. Secondly, their joining of the four elements is imperfect, making use of miniscule welded rivets that are subject to dissolution, unlike the indissoluble bonds which with they were themselves created. This type of construction may be necessary to join a soul in a body "subject to inflow and outflow", but its less than perfect nature is emphasized. In this way, the material, formal, and efficient causes of human beings are all shown to be deficient, which raises the question of its final cause—something Timaeus does not explain, save for locating human existence in the model imitated by the blameless demiurge. This is indicative of Timaeus' interest in questions of "how" at the expense of "why", leaving these deeper questions no more elucidated than does the standard Greek mythology.

The result of the lesser gods' labor is an animal that wanders about haphazardly and irrationally; it lacks the purity of movement that characterized the gods and cosmos as a whole, and instead moves in all six directions (up, down, left, right, forward and backwards). This is at least partially a consequence of the mortal body's susceptibility to rushing waves of the four elements, which result in sensations that overwhelm the body and "attack" the soul. These waves distort the orderly orbits within the soul and cause them to course irrationally. Timaeus compares this state of

the soul to a man who stands on his head and thereby becomes confused about the location of left and right for the people watching him[23]. The significance of this somewhat bizarre example is not immediately apparent, but it is worth noting the following. It is the first time Timaeus deals with the interrelation of human beings, and moreover does so in a way that pits a single anomalous individual against the remainder of the group. While Timaeus is surely using the metaphor in earnest, Plato may intend for us to reflect on the political implications of the metaphor.

The upshot of the preceding account, Timaeus tells us, is that "soul first becomes unintelligent whenever she's bound within a mortal body". Our human bodily form detracts from our higher, god-like soul, and confers no positive benefit. Man is at his best when the "streams of increase and nutriment" within him are least aggravated, allowing his natural orbits to reorient themselves, thus setting him "on his way to being thoughtful". Proper upbringing and education also assist in this process, leading to health and sanity. Indeed, they allow one to escape "the greatest disease", which Timaeus later identifies as stupidity (*amathia* 88b). Failing this process of education, the soul returns, improbably, to *Hades* in an unintelligent state. Having provided us with a glimpse of the larger perspective, Timaeus affirms the need for more precision in these matters, specifically regarding "the birth of the bodies in all their parts and soul", and "the causes and forethoughts of gods through which soul

[23] Kalkavage has a helpful explanation of this confusing passage: "If I am right side up and you are looking at me, then my left faces your right: we both know that we are mirror images of each other and so correctly identify each other's left and right. But if I am upside down, and neither of us are thinking about the consequences of inversion, we become disoriented with respect to each other's left and right: we use our former principle when it no longer applies, and so wrongly identify each other's lefts and rights. (p. 74-5 n.58)

was born". It is questionable whether this promise is actually fulfilled by his ensuing account. Nevertheless, Timaeus reaffirms his guiding principle of settling for likelihood rather than certainty, and resolves to carry on.

Timaeus' explanation of the creation of the human body mirrors his description of the cosmos (33c) and is clearly intended for comparison therewith. The two "divine circuits" that comprise the human soul are bound within the head, a "spheroform body" that is said to "imitate the figure of the all". It is treated as self-evidently the most divine part and the natural ruler, the rest of the body being called its "servant". Timaeus gives a teleological account of the body based on the needs of the soul and its cranial container. Like the earlier teleological description of the cosmos, Timaeus' treatment has a rather playful tone, and one wonders if this levity implies a criticism of this type of explanation or a recognition of the potential for spurious teleological accounts. According to Timaeus, the greater material part of the human body comes about simply to convey the head about, since the human form necessarily suffers all the imperfect movements. The very idea of a disembodied head being at a loss (*aporein*) in climbing over a hill is quite ridiculous, but it nicely illustrates how Timaeus' deprecation of the body differs from Socrates' (and Plato's). Timaeus' glorification of the head reminds us of another rather famous "head" in the platonic dialogues—Cephalus in the *Republic*, seated on his *proskephalaion* cushion, was the very image of the disembodied head, and his depreciation of *eros* fits particularly well with Timaeus' account[24].

The arms, like the legs, are treated as mere transportation devices (for clambering up steep slopes, one supposes), and no indication is given of their potential role in defense or in feeding oneself, both rather important functions. The dissymmetry between the body's front and back is explained in terms of the preferred direction of movement and the sense organs of the face. Timaeus treats the face as a mere source of sense data, and seems to neglect its role in making people recognizable as individuals. Timaeus' explanation of the human body here is almost entirely devoted to similarities of form; there is no explanation of those things that distinguish human beings, the most obvious and important of these being the differences between the sexes.

Timaeus' explanation of vision is similar to that of Empedocles, and involves a vision stream of non-burning fire emanating from the eyes. He explains how darkness is able to "quench" this stream and how mirrors are able to form an "image of necessity" that takes on the appearance of another object. Perhaps most interesting and pertinent to the present study is his explanation of dreams. When the eyes encounter darkness, an "invitation to sleep", the eyelids close and "shut in the power of the inner fire". Normally, this brings about a feeling of peace and a dreamless sleep, but if "some fairly great motions are left behind", they produce phantasms that will be remembered upon awaking. Timaeus suggests that the type of dream one experiences depends on both the type of this residual motion and the "regions in which they are left", which may refer to the part of the soul involved, given Timaeus' later spatial separation of the tripartite soul (69ea). This essentially squares with the

[24] *Rep.* 329c, cf. *Timaeus* 42b, 69d

explanation of tyrannical dreams in *Republic IX*, which arise when the rational part slumbers and the lower, desiring parts of the soul are still agitated. From this brief account, which will later be expanded when Timaeus explains the function of the liver, it is not clear whether Timaeus thinks one can control these dreams, or if Socrates' regimen for managing them (*Rep.* 572e-a) would work.

Having completed his mechanistic account of vision, Timaeus pauses for a moment to reflect on the status of his account. He says he has just been explaining the "assistant causes" used by the god to perfect the "look of the best". That is, we are to see these mechanistic explanations as subsidiary and subservient to the true cause of things, which is apparently intellect directed towards producing "the look of the best". This seems to answer to Socrates' disillusionment with the science of Anaxagoras in the *Phaedo*, wherein he accuses Anaxagoras of neglecting *nous* as a cause in favor of "air, ether, water, and other eccentricities". According to Timaeus, most people opine mechanical processes such as cooling, heating, coalescing and dissolving to be causes in their own right, and not the mere auxiliaries or assistants they are. One might protest that Timaeus appears to make this mistake in his physiological account of the soul, but he does trace the origin of the cosmos to a beneficent craftsman-god following a divine program; that is, the fundamental ruling principle of the universe is intellect and not a mechanical force.

Timaeus goes on to emphasize that only soul can possess intellect, and that this "being" is invisible, unlike the elements that serve as proximal causes. He asserts that

it is a positive necessity that the "lover (*erasten*) of intellect and knowledge pursue first the causes that have to do with the thoughtful nature, and second all such things that are moved by others and come to be movers of other things only out of necessity". Timaeus' allusion to an *erotic* love of intellect and knowledge should give us pause; while it is often implied in the Platonic dialogues that the true philosopher has something like an erotic drive towards *wisdom*, he is always explicitly described as a friendly lover (*philos)* of wisdom, learning, and the like[25]. While we might credit Socrates with this sublimation of erotic longing, pointing to considerable evidence in the dialogues and elsewhere[26], it is somewhat more difficult to attribute the same to Timaeus. Might Timaeus be overstating things somewhat, and could this actually indicate his misunderstanding of erotic passion? On the face of it, he seems to have transcended the separation between geometric and erotic necessities that Glaucon describes in the *Republic* (*458d*), in that he is supposedly erotically disposed to study geometrical problems. But as Glaucon notes in the same context, most people are not "necessitated" to the same degree by each of these, and erotic necessities are apt to be more "stinging" to "the bulk of the people". Timaeus' description of human nature, which only a moment before was focused on the common attributes that we all share, now asserts something that is true for only a very small minority of people. Glaucon clearly has the political acumen to realize what motivates non-philosophers, whereas it is not quite so apparent that Timaeus makes this distinction.

---

[25] Though the passion for philosophy is another matter. Compare *Republic 499b*

Timaeus elaborates the characteristics of these two types of causes, opposing those of intellect, "craftsman of things beautiful (or noble, *kalos*) and good", to the ones that "bereft of prudence, produce on each occasion a disordered, chance effect". In opposing intellect as a cause to disorder and chance, Timaeus seems to discount the possibility of radical evil; this formulation takes as given that paradoxical Socratic dictum that knowledge *is* virtue. Critias' "divine quirk of chance" is a contradiction in terms to Timaeus, for whom the divine is always ordered and chance happenings are tantamount to bad or evil.

The distinction between "auxiliary" and true causes is illustrated in Timaeus' treatment of the proper "work" of the eyes. He considers his previous Empedoclean account of vision to have treated the auxiliary causes of the phenomena, and implies that he will now turn to the true causes. He goes on to speak of what Aristotle would call the final cause of vision; that is, its teleological purpose (Aristotle's other three types of cause fall under the rubric of "auxiliary causes" on Timaeus' account). According to Timaeus, sight is "the cause of the greatest benefit for us", as it is the necessary condition for our philosophizing about the cosmos. "None of the accounts we're now giving about the all would ever have been uttered if we had seen neither the stars nor the Sun nor the heavens", and so vision for Timaeus truly is a great gift from the gods.

---

[26] Especially Alcibiades' speech in the *Symposium*, Xenophon *Memorabilia 3.11*, Aristophanes' *Clouds*

Our observations of the heavens apparently provide us with our understanding of number and time, as well as the supposedly philosophic inquiry into the all. Timaeus' suspicious conflation of his astronomical musings and philosophy has already been examined, but its importance cannot be overstated. The greatest good stemming from vision for Timaeus has nothing to do with survival (finding food and avoiding enemies, perhaps) or appreciating beauty, except of the most formal kind. These "lesser goods" are not even worthy of mention, and "the non-philosopher, if made blind to them, would, in lamenting, 'sing his dirge in vain'". Here Timaeus quotes Euripides' *Phoenician Women*, where the blind Oedipus recognizes he must "bear the necessities from the gods". Timaeus' allusion to Oedipus, who blinded himself in response to his horrendous and unnatural fate, complicates matters somewhat. Oedipus was almost philosophic[27] in his search for the cause of the plague afflicting Thebes, received almost inconceivable misery in return, and responded by relinquishing this greatest god-given gift. Oedipus' miseries were regarding the human things for which Timaeus has little time – one wonders just how troubled Timaeus would be by Oedipus' tribulations – but they serve to remind the reader of these difficulties.

But passing over these problems, Timaeus confidently states the reason the gods gave human beings the power of vision. By observing the "circuits of intellect in heaven", humans can modify the circuits within themselves, which operate in the same way, as we had earlier learned. Thus observation of the all, a "kind of philosophy", amounts to a sort of psychic tune-up. In this way, we stabilize our own "wander-stricken

[27] Cf. Bacon *Wisdom of the Ancients* Ch. 28 "Sphinx, or Science" and Nietzsche *Birth of Tragedy* §9

circuits" and bring ourselves into harmony with the cosmos at large. Such utilitarian conceptions of both philosophic study and the human soul jars somewhat; like so much of Timaeus' account, it supercedes the wondrousness of the phenomena with a 'likely' explanation.

We are told that sound and hearing are to be explained in the same way, and perhaps because of this, we receive a rather sparse account. These phenomena apparently also exist to bring the human soul into harmony with the world-soul, but at any rate are emphatically not to be used for "irrational pleasure". Timaeus seems to understate the importance of speech, an activity that he is himself presently engaged in, and perhaps not only for the attunement of his soul with the cosmic order. The political importance of speech, contributing as it does to all facets of human life, from the satisfaction of the most basic needs to the pleasures of the highest philosophic conversations, is given short shrift here. Music and rhythm are likewise treated as means of attuning the individual soul, with no mention of their political importance given. Whereas the reform of music and poetry in Books II and III of the *Republic*, involving an extensive consideration of the various types of rhythms and harmonies in addition to the *logos* of the accounts, was carried out entirely for political reasons, Timaeus completely ignores this political dimension.

Timaeus concludes his first account of the human form by again describing the opposition between intellect and necessity. He passes over senses of touch, smell, and taste and declares the need for a new beginning involving a mysterious

"wandering cause". His account to this point has been dominated by an explanation of intellect, "except for a bit", and he must now explain how intellect and necessity truly interrelate or "stand together" (*systasis*) in order adequately to explain the birth of 'the all'. This new beginning involves a more precise inquiry into the nature of the elements—both *what* they are and *if* they are. Thus begins a rather dense section that draws heavily on pre-Socratic natural philosophy and raises some fundamental metaphysical issues, thereby postponing the more intensive examination of the human form for some time (roughly 20 Stephanus pages). While the present study cannot possibly deal adequately with the questions raised in this intervening section, some attempt will be made to explain their wider relevance for the dialogue and their direct implications for Timaeus' account of the soul.

CHAPTER IV: NECESSITY, SPACE, AND THE ELEMENTS

Timaeus' focus now shifts to the natures of the elements themselves, "before the birth of heaven". Most people, Timaeus tells us, are content to take the standard four elements of fire, earth, air, and water as simply given, like the letters of the alphabet. They use them to build up more complicated structures without examining the nature of these component parts. Neither are the elements to be treated like syllables, which would seem to be 'atoms' of spoken language. Taken together, these two examples serve to show the ambiguity inherent in assessing part-whole relationships and determining the true fundamental constituents of any complex phenomenon. These examples also lead us to wonder about the naturalness of speech and written language (in contradistinction to hieroglyphics, cf. 19bc). Timaeus pauses at this point to again affirm "the power of likely accounts" and invoke the aid of "god the savior" in getting through this particularly dense topic (the reader is inclined to do likewise).

The first step in this 'new beginning' is to add an entirely new principle to the prior distinction, previously treated as fundamental, between being and becoming (28a). This earlier dichotomy was sufficient for the earlier account, which elucidated the relationship between an eternal model and a visible instantiation of that model. Now, however, they must examine the component parts of the instantiated cosmos, which requires that there be some "receptacle" for becoming. This principle, which will soon be identified as space, allows one to comprehend the changes in the realm of becoming. Before this principle can be introduced in earnest, however, Timaeus notes that "we must raise perplexities about fire and its fellows". The problem is regarding the stability of the elements and their principles of transformation. If we cannot speak of fire as a particular entity distinct from water, the principle of space will be of little help. Timaeus appears genuinely perplexed at this point, but nevertheless proceeds to examine the character of the elements more precisely.

We have all had the experience, Timaeus suggests, of seeing one element transformed into another. These are simply the natural processes of condensing, melting, dissolving, and the like. From the examples that Timaeus gives, it seems that a given element does not haphazardly become just any of the others; rather, there is an ordered progression from water, through earth and fire, to air. Strangely, the remaining part of this "circle" is not the simple reverse of the first half, the positions of earth and water having been transposed[28]. This lack of symmetry raises questions about the orderliness of the progression and further complicates the account. The

[28] water → earth → air → fire
earth ← water ← air ← fire

larger issue, though, is how we can refer to any of these as "elements" when they are able to change into one another. It is a problem dating back to Parmenides and Heraclitus, and Timaeus seems momentarily inclined to the solution of Heraclitus. "The safest course", he suggests, is to address whatever we see not as "this", but rather "of this sort on this occasion", basically surrendering to the primacy of becoming. Timaeus' "safe" view agrees with various dictums of Heraclitus, for example, that one cannot step into the same river twice, and *panta rei*: all things flow. Lacking confidence in the stability of the four elements, Timaeus instead looks to "that in which these things individually show themselves", our newfound principle of space.

Timaeus provides an example to illustrate his point. It is as if someone were to mold gold into different figures continuously, and someone were to ask "whatever is it"? The "safest" answer to the question, according to Timaeus, is "gold", and not "triangle" (were that the shape the gold happened to be in when the question was asked). It would be an error to confuse Timaeus' metaphor with a vulgar materialism, for Timaeus is well aware of the importance of form; the problem is that neither matter nor the forms of things are stable, and the unchanging basis is to be found in space (here – strangely – represented by the gold). The nature of space is analogous to this "molding stuff" or, switching the metaphor, the odorless base liquids that receive perfume scents. The actual mechanism of the 'molding' process is, Timaeus concedes, "hard to tell of and wondrous", so he opts to defer his explanation for a later time, though tellingly, the issue is not revisited in the dialogue. Thus, we are left

with three principles to explain the world of becoming: "that which comes to be, that *in which* it comes to be, and that *from which* what comes to be sprouts as something copied". The form is like a father of that which comes to be in the "mother" space. Space is an "invisible and shapeless form" that is surpassingly difficult to speak about; indeed, the few pronouncements Timaeus makes about it are followed by the hedging comment that "we won't be lying [if we say these things]".

Timaeus next turns to a metaphysical issue of the largest possible scope. Having "retreated" (48b1) to the position that space provides the unchanging basis for the various transmutations of the elements, Timaeus now asks whether it makes any sense to continue to speak of "Fire itself on its own". That is, why not disregard the various elements, plagued as they are by becoming and alteration, and simply accept what we happen to apprehend through our bodily senses? If one adopts this view, there is no "intelligible form of each thing" that *is*, this supposed form being "nothing but a word"[29]. To accept this nominalism is to call the rationality of the philosophic life, and much of the preceding account, into question. If we are limited to assessing the disparate sense-data that happen to confront us, of what use is the human understanding or Timaeus' description of the cosmos? Just moments earlier, Timaeus had assured us that our sense of vision comes to be for the sake of contemplating the heavens, but this would be utterly irrational if the mere sense data attained to more

[29]Hobbes succinctly articulates the nominalist view in the fourth chapter of his *Leviathan*, "On Speech". Of course, this is not to suggest Hobbes is unaware of the paradoxes bound up with this view. "Of names, some are proper, and singular to one only thing; as Peter, John, this man, this tree: and some are common to many things; as man, horse, tree; every of which, though but one name, is nevertheless the name of diverse particular things; in respect of all which together, it is called a universal, there being nothing in the world universal but names; for the things named are every one of them individual and singular" (*Leviathan* Chapter IV, paragraph 6)

truth than the heavenly order. Indeed, each individual star would be a sense-datum unto itself, there being nothing to account for why all stars *are stars*, let alone whether they add up to a *cosmos*. Timaeus shows he has some sense of the importance and scope of this issue by his reluctance either to dismiss the issue without consideration or to "tack on another lengthy side-job" (one gets the impression that Timaeus knows just how lengthy this could be). Instead, he looks for "some major distinction" they could draw that would allow them to proceed, again on the basis of likelihood (51cd).

Timaeus elects to cast a *vote* on this issue, perhaps acknowledging its controversial nature and his somewhat vested interest therein. If we are able to distinguish between intellect and true opinion, then the intellected forms must exist, these being the basis on which we would discriminate knowledge from opinion. But if true opinion is equivalent to intellect, then our bodily senses are to be considered "the most stable". Timaeus does see a difference between intellect and true opinion based on their means of acquisition. Intellect comes into being through teaching, is accompanied by a true account, and is immovable by persuasion. Contrariwise, true opinion is acquired through persuasion, "irrational" accounts, and is alterable by persuasion. It is somewhat surprising that Timaeus goes about things in this way; would one not expect that knowledge differs from opinion in that one can give a rational defense of the one and not the other? By focusing on how they are acquired, Timaeus effectively begs the question: it is often difficult to distinguish teaching from persuasion and "true accounts" from irrational ones. We are, after all, usually

persuaded of something because of a plausible rational justification thereof, as any decent rhetorician well appreciates. This points to the need for a dialectical examination of all opinions in order to test their truth as rigorously as possible, and calls into question the very possibility of *certain* knowledge[30]. However, in constructing his likely story, and resisting the temptation to search for something beyond it (29a), Timaeus is limited to merely *hoping* that his account is based in intellect rather than persuasion. That is, his own 'methodology' does not allow him to determine whether his likely story is rightly considered knowledge or (possibly true) opinion.

It would seem that those who distinguish between true opinion and knowledge would always be significantly outnumbered by those to whom this question has never even occurred. For a modern illustration of this, consider how the vast majority of people in our time would insist that they *know* that the earth orbits the sun despite being entirely unable to defend this view. Similarly, Socrates' storied exploits in the *agora*, challenging those who thought they knew what virtue is, show the popular propensity to conflate knowledge and opinion. Distinguishing correct opinion from knowledge depends on the philosophic activity of calling into question one's supposed knowledge. It also presupposes a standard of knowledge beyond productive utility, for if knowledge is merely desired for instrumental purposes, correct opinion will 'work' just as well. Moreover, a standard of utility would yield no answer for theoretical questions, including the very issues here examined. For these reasons, Timaeus and Socrates will always be in the minority in asserting the distinction

[30] excepting the Socratic knowledge of one's ignorance

between opinion and knowledge, and Plato appears to wish to draw attention to this by setting the issue up as a "vote". This vote carries the political implication that the multitude will always misunderstand the philosopher – philosophy will be seen as useless or ridiculous – nor will they be capable of distinguishing the philosopher Socrates from the cosmologist Timaeus.

While Timaeus suggests we are "dreaming" when we "affirm that it's necessary for everything that *is* to occupy some space", a layman would surely rejoin that Timaeus is the one dreaming, what with his mysterious 'realm' of forms. The issue of dreaming also occurs in the *Republic* (476c), where Socrates and Glaucon agree that "the one who believes that there are fair things but doesn't hold that there is beauty itself" is dreaming rather than awake, and this is part of an argument intended to distinguish the true philosopher from those with whom he is popularly confused. Immediately after drawing this conclusion, the issue arises as to how they will placate someone who disputes the truth of their conclusion, anticipating the natural hostility to philosophy on the part of the unphilosophic many. Something similar appears to be at work in the *Timaeus* in the political presentation of a seemingly abstruse metaphysical issue. This leads us to the realization that Socrates and Timaeus are natural political allies on this point, despite having substantially divergent philosophical positions.

Having cast his vote on this fundamental issue, Timaeus continues with his account. He concludes, "proceeding from [his] vote", that the three principles of being, space

and becoming truly are fundamental. Things come to be haphazardly in space, which acts like a winnowing fan, scattering the various particles in a haphazard fashion that results in a largely disordered cosmos. When the demiurge comes on the scene, he is confronted with a random collection of the four elements and sets about imposing order through "form and number", seeking the "beautiful and best" condition that had been described earlier. In Timaeus' first discussion of the demiurge it had been ambiguous whether he actually created matter, as the focus was placed on the model to which he looked in his fashioning of the cosmos. Here it seems as if matter predates the demiurge, and comes to be from the interrelations of the three sovereign principles that Timaeus has just described, particularly the mysterious concept of space. Timaeus will now elaborate on the demiurge's mathematical ordering by explaining the "birth" of the various elements.

Timaeus takes it as given that the elements are three dimensional bodies composed of triangles. He reasons about the various types of triangles and how they might be arranged to form three dimensional structures, assessing the possible combinations on the basis of their beauty. The details of his geometrical reasoning are not important for the present study, but the end results are pertinent. Timaeus' geometrical construction results in the five so-called 'platonic solids', which are regular polyhedrons with identical polygon faces. Timaeus seems to find beauty in their symmetry and the fact that their shape progressively approximates the shape of a sphere, culminating in the dodecahedron that is assigned to *the all*. The most important feature of the platonic solids, however, is that geometry dictates that there

must be exactly five of them[31]. This fact provides Timaeus with some natural basis, grounded in the strictest, geometrical necessity, for there being exactly four elements (once the problematic fifth has been attributed to *the all*). This is a formidable problem for atomistic explanations – why should we believe in four fundamental elements rather than one, or ninety-two? The special status of the five platonic solids gives Timaeus a convenient likely explanation of this perplexity.

Having derived the forms of the platonic solids from only basic geometry with a view to the beautiful, Timaeus must now assign each of the solids to a particular element. Here he is again limited to mere likelihood as he tries to relate the form of the solids to the macroscopic qualities of the elements they represent. Thus, the solidity of earth is due to the "secure bases" of the cube, and fire's burning feel to the tetrahedron's sharp edges (cf. 62a). The remaining elements are ranked in terms of sharpness, mobility, and size. Happily, these three criteria all result in the same assignments of geometric form to element. Timaeus then makes explicit the principle that was implicit in his assignment scheme—that each individual 'atom' of an element is far too small to be seen or to affect us, but large masses of them are both seen and experienced (56b-c).

There follows an extensive discussion of the possible interactions between the elements, which is intended to explain the seemingly unlimited variety of objects in the world. The earlier inter-elemental transformation scheme (49c) is now defended

[31] Elementary geometry suffices to show this must be the case. Briefly, because the internal angles of at least three faces must come together to form a vertex, the sum of these angles must be less than

based on the geometrical relationships between elements. For example, the sharp edges of fire are capable of transforming a water particle into one fire particle and two air particles (that is, an icosahedron becomes one tetrahedron and two octahedrons). Fire affects earth somewhat differently, though, as earth "would never go into another form" because its cubic geometry does not permit this. These geometrical transformations are made more plausible by the fact that the triangles that comprise the four elements can vary in size. This imposes another level of complexity (and perplexity) on the element scheme and thereby accounts for an even larger variety of elemental combinations and transformations. It is this nearly infinite variety that those interested in likely accounts must observe (or contemplate, *theorous*), Timaeus insists. However, it is the diverse manifestations of nature that we are able to observe, and not the invisible triangles that comprise the elements.

Timaeus' conjectures about the elements allow him to explain motion and rest on the basis of the unequal distribution of the elements. Motion only occurs under conditions of inequality, and rest is the default condition of the universe. This seems to fit well enough as an explanation of inanimate nature, but not for the self-initiated movement of animals and human beings. Every person has continual experience of initiating their own movements, this being the most obvious common-sense evidence in support of free will. At this point in Timaeus' account it remains to be seen whether Timaeus' explanation of human nature will resolve this problem and still harmonize with his comments here, but the overtly mechanistic treatment here might

---

360°, thus making the pentagon the largest possible polygon that will fit.

cause the careful reader to consider this issue and anticipate the discussion of the human form.

The explanation of various natural processes, made possible by Timaeus' incipient atomic theory, continues on in examining the various "kinds" (*eide*) of fire, earth, water and air. Timaeus is seeking to explain such peculiarities as why the fire involved in vision differs from that of a cooking fire, and he concludes that these differences are to be explained by the different sizes of their component triangles. Having noted the basic character of his explanation of these things, we can safely pass over his specific descriptions of such things as bronze, hoarfrost, and fig juice. Timaeus does interject an important observation in the midst of these musings which provides some evidence of his motivations for this lengthy treatment.

> As for the rest of this sort of thing, it's not at all complicated to reason it out further—that is, for one who pursues the look of likely stories. And whenever, for the sake of a rest, a man puts down accounts about things that always *are* and pursues likely accounts about becoming, thereby gaining a pleasure not to be repented of, then he would make within his life a temperate and prudent sort of play. (59cd)

Timaeus seems to be breathing somewhat easier, having 'successfully' dealt with some extremely difficult metaphysical problems, and is now settling into his native element. The sorts of curiosities he treats at this point – why gold is soft, oil shiny, and glass transparent – are especially amenable to likely stories. They have neither the comprehensive implications of the metaphysical problems he has just passed over, nor do they invite one to test the account against one's own experience as does his ensuing account of the human body and soul. As such, he is less constrained and

seems eager to prolong his discussion of these issues. In suggesting that these types of discussions are pleasurable, Timaeus provides us some insight into his own motivations and the character of his soul. It also causes us to wonder, however, whether Timaeus' explanation of pleasure (64a ff.) can account for his own experience here.

Once he has treated the various manifestations of all the elements, Timaeus begins to turn again to the human form, specifically regarding sensory affections. He resolves to explain the physical properties that provoke sensory affections before actually taking up the human form. He treats temperature, hardness, heaviness, and smoothness as relative terms and uses the human form as the standard for judging them. Thus, "'hard' is assigned to all those things to which our flesh gives way, and 'soft' to whatever gives way to our flesh". He gives no indication that there could possibly be objective measures of these qualities, nor does he acknowledge that people may differ in how they experience and judge them.

CHAPTER V: THE HUMAN FORM

Timaeus makes his transition from inanimate to human nature based on the affections that produce pleasure and pain, which he calls "the greatest topic". Earlier (61c), he had explained the processes of sensation before explaining our 'evaluative reactions' to this sense data, but he had expressed some doubt as to which one he should address first. Having opted to first explain temperature, hardness, and the like, he now turns to the human experience of sensing these qualities in terms of pleasure and pain. The secondary qualities of objects impose themselves on our senses with varying forcefulness, and this force is conveyed through the body to "the prudent part" (*to phronimon*), which apprehends the sensation. Pain is produced by sudden forceful affections that act contrary to nature, while pleasure is experienced in returning to the natural condition, which is strange given his later claim that pleasure is "evil's greatest lure". This explanation applies to the various "voidings" and "refillings" of the whole body, but leaves the pleasures associated with particular senses obscure, and Timaeus next turns to this issue.

In addressing the sense of taste, Timaeus notes it was left out of the earlier account of the human form (42a-48a), which took up the senses of vision and hearing among other topics. The basis of this exclusion seems to be that the latter two senses are 'rational', whereas taste and smell are irrational, chemical senses[32]. Timaeus revisits the more rational senses in this part of his speech, but he does so in a way that calls attention to this distinction (i.e., he treats the irrational components of the rational senses). His explanation of taste distinguishes sour, tangy, bitter, salty, and sweet tastes on the basis of the roughness or smoothness of the foodstuff. He seems to treat sweet tastes as more pleasurable than, for instance, sour ones, suggesting that they "settle everything as much as possible according to nature", and become "pleasurable and dear to everyone". His suggestion that *everyone* will find the same tastes pleasurable is of a piece with his tendency to ignore the differences between people in explaining human nature. This is strange, as the sense of taste would seem to be the best possible example of the subjectivity of certain judgments (as is indicated by our use of the term 'taste' to describe idiosyncratic preferences). Nevertheless, it is apparently possible to dispute taste on Timaeus' view. A similar account applies to smells, which have remained nameless due to their complex natures, but are easily separated out into pleasant and painful varieties.

Timaeus next briefly returns to the sense of hearing, which he had earlier explained in terms of its god-given purpose, which is to say, teleologically (47d). That is, he had

[32] Both vision and hearing are closely bound up with philosophy, vision being a natural metaphor for knowing or apprehending, and hearing a means of giving and receiving *logos*. In contrast, taste and smell are more visceral and instinctive. Nietzsche often plays off this distinction; for example, suggesting that one can "smell" the decay in Platonism (*Beyond Good and Evil* §190).

focused on the final cause of hearing: that it, like sight, allows us to attune ourselves to the order of the cosmos, making the circuits of our soul resemble those of the heavens. He had also emphatically stated that this sense was not for the sake of "irrational pleasure", despite this being the opinion of most people. At 67b we get a more mechanistic account of hearing, what Timaeus would call the "assistant causes" of this phenomenon (cf. 46c), making no mention of attunement. While Timaeus explains the high and low sounds, he demurs from explaining "the concords of sounds", which he postpones to "a later point in our account". On the basis of what he does provide here, it would seem Timaeus is not able to explain the pleasures and pains of harmony and cacophony, which are not simply reducible to "smooth" versus "rough" sounds or any pleasurable return to natural conditions.

Timaeus also revisits the sense of vision, albeit in a different way. He had formerly (45b-46a) provided an extensive treatment of both the mechanism and the purpose of vision. But now he returns to it in order to add a missing component. Previously he had said nothing regarding the perception of color, presumably because color vision is extraneous to the perception of the heavenly order manifest in the night sky. He might even consider this capacity to be an unnecessary embellishment, like the irrational pleasures of music. But while one can choose not to listen to harmonious music, perhaps because indifferent to its beauty (as some people apparently are), one cannot willfully make oneself colorblind. Thus, Timaeus cannot ignore this capacity and still have a plausible account of human nature. Timaeus' likely explanation of color does not, of course, explain our actual sensual experience of the different colors.

It can at best explain the physical processes that give rise to them; but if read aloud to a blind man, it would provide no real understanding of blueness, for example, or of why blue 'goes well' with yellow, but not with brown. This is true of all explanations of so-called 'secondary qualities' (and so applies to Timaeus' accounts of taste, smell, and hearing as well) but it seems particularly pertinent to vision, perhaps because of the richness of the sense. Timaeus' likely story necessarily paints the world in black and white[33], thereby pointing to the importance of both sensual and passionate experience for understanding the world. Within these unavoidable limitations, Timaeus does provide an explanation for color vision based on the dilation and contraction of the visual stream he spoke of earlier (45b), and explains how different colors can be produced by blending. However, after describing the mixing processes, Timaeus makes a surprising comment about scientific experimentation:

> But if, in investigating these matters, someone were to make a test of all this through deed/experiment (*ergon*), he would only show his ignorance of the difference between the human and the divine nature: that it is god who is sufficiently knowledgeable, and also able, to blend together the many into a one and again to dissolve a one into a many, but no one among humans either is now or ever will be in the future sufficient for either of these. (68d)

Timaeus seems to be advocating a near categorical renunciation of what has come to be known as 'Baconian science', which is characterized by a willingness to "vex" nature into revealing her secrets. All such exploits, Timaeus tells us, are to be viewed as impious and hubristic in their implicit challenge to the "divine nature". But this perhaps generally sensible injunction occurs at a rather surprising point in the

[33] See Kalkavage p. 101 n.113

account: an experimental investigation of *color mixing* would seem to be utterly benign in its consequences, especially in comparison to some other possible experimental tests of the likely story (it probably suffices to mention vivisection here). Could this instead be an attempt on Timaeus' part to avoid scrutiny of his likely story? The color combinations he describes are readily testable in a way that much of his account is not, and as A.E. Taylor notes[34], the formula for green seems a bit off. Timaeus' comment here might actually be a left-handed acknowledgement of the power of the experimental approach. At the very least, it is clear that Plato has considered this avenue and makes Timaeus speak out against it. Still, it is curious: why settle for "likely" when some benign experimentation, such as does not actually "vex" much less "torture" nature, could yield practical certainty?

Timaeus' discouragement of proof (and disproof) by experimentation is immediately followed by a new distinction of necessary versus divine causes. This is not the first time that Timaeus has separated out different types of cause; recall that earlier (46e) he also distinguished two distinct forms of cause, "on the one side, those which, with intellect, are craftsmen of things beautiful and good, on the other side those which, bereft of prudence, produce on each occasion a disordered, chance effect". This distinction is refined at a later point (69a), where we discover that the necessary cause is not so much opposed to the divine cause as subsidiary to it. The craftsman makes use of the necessary causes "as his servants", while making things as good as they can be. The prudent human being is expected to investigate the world in like fashion, and to undertake this for his own benefit in obtaining a happy life. One must investigate

[34] p. 485. Also noted by Kalkavage, p. 102 n.118

the necessary causes of things, but this study is to be carried out for the sake of understanding the divine things. Timaeus' earlier accounts of vision may be representative of this approach—the Empedoclean account of the visual stream (supposedly) allows for a consideration of the highest purposes of vision. One can, of course, question how well these two types of explanation cohere, but it seems clear that the investigation of mechanistic order is always to be subordinate to a teleological understanding of the whole. It could also be that Timaeus is at pains to provide a suitably pious interpretation of his views of the world.

This return to the distinction between necessary and divine causes nicely leads into the next topic of Timaeus' speech, a more precise treatment of the human soul. Does the relation between body and soul perhaps mirror that of necessity and divinity? Timaeus' treatment seems to be directed at the necessary causes of the soul, but he also makes it contingent on divine ratification (72d). Timaeus prepares to take up this difficult topic by noting that the types of causes lay "ready to hand for us, like wood/matter (*hyle*) for builders", and he suggests that they briefly review their earlier conclusions before attempting to add "a finish and a head" to their story. Here it seems, unlike his account of the incipient human form at 44d-e, the 'head' must come last and requires the rest of the 'body' in order to exist. Having noted this, Timaeus gives a very brief recap of the likely story to this point. He emphasizes the ordering powers of the demiurge and the fact that the creation of the mortal soul is delegated to lesser divinities. Perhaps as a consequence of this, the mortal form of soul is beleaguered by "affections terrible and necessary":

> ... first pleasure, evil's greatest lure; then, pains, deserters of goods; and yet again, rashness and fear, thoughtless counselors the pair of them; and anger, difficult to appease, and hope, easy to seduce; and having blended them all together with irrational sensation and all-venturing love, they put together the mortal kind, as was necessary. (69d)

From this, it seems fair to say that Timaeus' view of the human condition is rather pessimistic. While the pursuit of pleasure can bring about considerable evil, most people believe that a good life entails a reasonable amount of pleasure. Neither would we want entirely to do away with pain, which alerts us to imminent bodily harm and, on Timaeus' own account, warns us that we are deviating from our natural condition (64c-d). The 'good' side of rashness and fear are less obvious, but these passions can also be beneficial. Fear especially, provided one has learned to fear the right things, such as the dangers Timaeus seems to be warning us of in this very catalogue of "affections terrible and necessary". Anger often provides a passionate impulse to see justice through, and is closely bound up with successful defense of the polity in war. Hope would seem to be almost entirely beneficial in encouraging one to strive for noble and good things; we might recall Cephalus' quotation of Pindar in the *Republic* which praised this "nurse of his old age" (*Rep.* 331a). Irrational sensation allows us to experience beauty and provides considerable pleasure, and most would agree that "all-venturing love", though potentially troublesome, can be a great good for human beings. Timaeus treats all of the above affections (*pathemata*) as merely necessary for the existence of the mortal, human form. The existence of human beings must itself serve a divine purpose in making the cosmos most beautiful and best (92c), but Timaeus implies that a human race that experienced none of these

affections would be preferable. The above remarks should be sufficient to call this view into question.

Timaeus' second treatment of the soul is interesting in that it is largely physiological. It disperses the soul throughout the body, physically locating it in bone marrow. This fits with normal human experience of ourselves as *a self* that is co-terminus with our body[35], and provides a sort of common-sense explanation of the mind-body relation, though one which is ultimately inadequate. This dispersed soul is not, however, homogeneous. Rather, it has distinct, physically separated parts that fulfill specific psychic functions. The divine, presumably rational, part is located in the head, and is separated from the lower parts of the soul by the "isthmus" of the neck to prevent it from being sullied by them. The chest region contains the two lower parts of the soul, which are also physically separated from each other "as though [having marked off] one dwelling for women and a separate one for men". Clearly, the "part that partakes of courage (or manliness, *andreia*) and spirit" is to be associated with the male dwelling, and the desiring part (perhaps not simply by process of elimination, see 91c) with the female. This description may also serve as an oblique reminder of the potential differences between male and female souls, and thus point to the provisional nature of the account. The spirited part is said to be a lover of victory, but no mention is made of love of honor, which fits with Timaeus' tendency to treat man as an individual divorced from political community. As in the *Republic* account, the spirit naturally allies itself with the rational part in order to "forcibly keep down" the

[35] see Kass, "Thinking About the Body", in *Towards a More Natural Science* p. 283

desires. Timaeus' account agrees quite literally with C. S. Lewis' memorable maxim that "the head rules the belly through the chest"[36].

In addition to these three physical placements of the soul's 'parts', Timaeus mentions some bodily organs which act in conjunction with the various parts of the soul, including the heart, lungs, liver, and spleen. It is not clear whether their respective 'psychic' roles are in addition to their more pedestrian bodily functions, or if they serve the soul exclusively. The heart and circulatory system act as an alarm system, forcing the rest of the body to submit to reason when injustice is being done. The lungs act in a contrary fashion, cooling and soothing the body when it is overly agitated by the spirit. This also squares with experience insofar as 'becoming spirited', especially in response to some perceived act of injustice, often causes one's heart to 'race' or even 'pound', and this effect can often be alleviated by taking a few deep breaths. The fact that Timaeus conflates the action of these bodily organs with soul simply underlines how intimately the soul and body are intertwined.

The liver is also said to be an organ ministerial to the soul in the above way, but Timaeus' explanation of this part is less obviously related to experience. The liver, we are told, has the somewhat strange function of soothing the desiring part by displaying images on its shiny surface, though no explanation of how the desiring part might 'see' these images is provided. These images supposedly frighten the desires into complying with the dictates of the rational part. It is also the locus of the divining part (*to manteion*), which the god provided so that we "might somehow

[36] C.S. Lewis. *The Abolition of Man* p. 24

touch on truth". The actual divination process is irrational, taking place while we sleep or are incapacitated by disease, but it is up to the rational part to assess the divined phantoms and determine their meaning. In this regard, Timaeus approvingly cites an old saying "to act and to know one's own actions and oneself befit only a sound-minded man", suggesting that whatever the source of the inspiration, sound-mindedness demands that it be tested by one's own sober rational powers. This removes much of the mysteriousness from the acts of divination, and it also undercuts the authority of the priests and prophets who claim to speak with divine sanction. As Timaeus immediately notes, it is custom or law (*nomos*) that has set them up as judges over the oracles, and while they may call themselves "diviners" they are actually "interpreters of things divined". As such, their interpretation must be rationally defensible and open to discussion.

Thus concludes Timaeus' explanation of "what has to do with the soul". He could only allow his the account to be called "true" should god give his consent, and even attesting to its likelihood is apparently "risky". This especially tentative avowal is indicative of the great difficulties involved in explaining the soul. Although his explanation sounds very 'scientific', Timaeus' treatment of the soul tells us much less than the account provided in Plato's *Republic*, which consisted of a 'phenomenological' investigation of experience accessible to any thoughtful person. Timaeus seems to take the tripartite division of the soul that was the result of the *Republic* investigation as a starting point, simply fitting the three parts into plausible

parts of the human body[37]. While it may seem to give a clear account of the relationship of body to soul (and vice-versa), Timaeus' psychology actually begs the entire question on this point. What it amounts to is a set of parallel accounts that somehow remain perfectly coordinated (anticipating 'Cartesian dualism'). Simply positing a set of bodily organs that supposedly do the soul's work tells us nothing about the substantive character of the soul or the, possibly insoluble, mysteries of consciousness: how the two-way threshold between body and consciousness – two radically different modes of being – is crossed in either direction.

Having given his concluding words on the soul, Timaeus turns to "what comes next in order right after all this", the remainder of the body. One might have expected from his resolution to "add a finish and a head that's joined to what has gone before" (69b) that his speech would conclude with an account of the highest part of man, the rationality of the rational soul. Instead, he goes on to discuss the lower parts of the body, somewhat more extensively than he did the soul, and without acknowledging this to be a decline. The bathos inherent in his abrupt move from soul to 'guts' is quelled somewhat by the explanation he provides of the "lower belly" and intestines. However improbable the idea might strike us as, Timaeus contends that these organs are actually designed by the god to allow philosophy to exist. Since our mortal nature militates that we must eat, these organs slow down the movement of food through the body and thereby dissuade us from immoderate consumption. Without this god-given

[37] This raises the question of whether the soul was actually discussed in the *Republic*-like conversation of the previous day, and was merely overlooked in the summary with which the *Timaeus* began (17c-19b).

provision, humans would spend all of their waking time eating – as most herbivores do – and would remain "unphilosophical and uncultured" as a result.

Timaeus expands on the consequences of our mortality in his explanation of bones and flesh. Bone marrow is to be understood as "the bonds of life" that tie soul to body. It is made out of primary triangles that are capable of producing any of the elements (a sort of prime matter, it appears), and amounts to a "universal seed-stuff" (*panspermian*). This marrow is transformed into bone through a tempering process that involves mixing it with earth and dipping it in fire and water so as to make it insoluble by these elements. This is meant to explain the relative hardness and resiliency of bone while still accounting for its eventual decay. Much like the 'rivets' with which the lesser gods joined our body to soul (43a), the explanation of bone gives a plausible explanation for our mortality. Flesh and sinews are also providentially provided by the demiurge so that we can move our inflexible bones, and also protect ourselves from an inclement environment and possible falls (74c). However, this protective flesh also 'muffles' the soul, making the flesh-covered part less intelligent. Thus, we find the most intelligent part, the head, to be the least covered with flesh. As a consequence of these qualities of flesh, the gods were confronted with a choice of either creating a long-lived stupid being, healthier and more free of pain, or a more intelligent but fragile form. They opted for "a life that was shorter but superior", and distributed the flesh to secure this result (75cd). In this way, our mortality comes to light as a divine compromise between self-preservation and intellect, the bestial and the divine.

Timaeus explains the mouth as a sort of compromise as well, as it serves both a high and a low function. Its role in the acceptance of food is a necessary function bound up with our mortality, but it is also responsible for the production of the "stream" of rational speech, which is "of all streams the most beautiful and best". In this way, it serves both necessity and divinity, providing an illuminating example of how these two types of cause can stand together in the human form. The example is particularly well chosen, since the physical parts of this structure (the tongue, teeth, palette, etc.) are actively involved in both production of speech and mastication of food. As such, it underlines the duality of human nature while showing how these two aspects of our nature can harmoniously coexist.

Timaeus goes on to explain the existence of skin, hair, and fingernails on the basis of the god's providence. Hair is specially devised so as to protect the head in all types of weather, but without dulling its rationality or sensitivity, as flesh apparently would (cf. 75a). Fingernails are not strictly necessary for man, but they are nonetheless providentially provided for the women and animals that will eventually emerge from men in accordance with the later devolution scheme (90e ff.)[38]. The god even provides "cultivated trees and plants and seeds", which amount to "another kind of animal" that possesses only the desiring part of soul[39]. These 'animals' are intended to be eaten by human beings, whereas the justice of carnivorous consumption is left

[38] This providential inclusion is similar to that of the genitals, which are not required until some men have undergone the transformation to women, but are necessary for the propagation of the human animal. This example shows more of a conflict between necessary and divine causes.
[39] Similar to "vegetative soul" in Aristotle's *De Anima*

obscure, particularly in light of the human origins of animals as explained in the devolution scheme. If Timaeus is, as some have suggested, a Pythagorean, he would likely be a vegetarian and this could potentially influence his views on this score.

Timaeus next turns to a detailed mechanical explanation of the circulation of blood and breathing, which together make up a sort of "irrigation system" (78a) that distributes the nourishment from the belly to the extremities. While his specific account of this phenomenon is a peripheral issue, it is worth noting that his explanation makes use of the four elements and the shapes of their respective triangles. It is treated as a passive process, an affection (*pathos*) that happens to our bodies out of necessity. He does seem to capture our sensory experience of these bodily processes, and even provides an explanation of the noises of digestion, which are to be seen as "imitation[s] of the divine concord born within mortal coursings".

Timaeus pauses at this point to interject a comment about wonder that is germane to his entire speech. In the midst of an intricate mechanistic explanation of a process that *is* rather wondrous (once one stops to consider how it is that the food we eat is assimilated into our bodies)[40], Timaeus declares that there is actually nothing wondrous about "all flowings of waters, and the falling of thunderbolts, and all that's wondered at in the attraction of amber and lodestones". Rather, the fundamental mechanical principles that he has just employed will suffice to explain away any feeling of wonder on the part of a careful observer. Thus, we are lead to ask whether

[40] See *Phaedo* 96c-d

likely stories like Timaeus' somehow eradicate our natural sense of wonder, and whether this is entirely beneficial[41].

CHAPTER VI: DISEASE AND DECLINE

Timaeus leads into a discussion of disease by explaining how the triangles that make up the human body weaken with age. When the body is young, the triangles interlock tightly and are able to slice up the incoming food and drink. With the onset of age, however, comes a slackening of the triangles, and a growing inability to cut up the outside triangles (apparently because the points of the body's triangles have been worn down; 81d). The triangles of incoming food present a challenge to the integrity of one's own triangles, and the natural process of aging is nothing more than the gradual destruction of one's component triangles. Eventually, these triangles deteriorate to such a degree that the soul is able to escape from the body, whence "she flies out with pleasure, for all that is contrary to nature is painful, while that which happens naturally is sweet". It is not entirely clear in what sense this separation is to be seen as "natural", whether because death is an inevitable, natural process for finite

[41] This issue will be treated more extensively in the concluding chapter (see p. 97)

human beings whose bodily triangles simply wear out, or whether the soul's natural condition is actually separate from the body, perhaps in its "lawful star" (cf. 42b). Timaeus contrasts this natural death with death from wounds or disease, which being contrary to nature (in the former sense of death as a natural process) will be experienced with pain.

This explanation of death leads Timaeus into a consideration of disease, which he suspects is "plain to everyone". His reasons for broaching this topic, however, are not quite so clear. His likely story is meant to explain the best features of the cosmos (cf. 92c), so it is slightly surprising that he goes into such detail regarding disease and decline in what was to be the 'crowning' part of the account (cf. 69b). One would have thought that his brief explanation of mortality based on the deterioration of one's bodily triangles (81b-e) would have sufficed in this regard, but instead we are presented with a fairly extensive discussion of types of diseases. The devolution scheme (90e-91e) is clearly needed to populate the cosmos with woman and animals, but the detail lavished on bodily disease seems excessive – a "side-job", to use Timaeus' term. Disease is, to be sure, an important part of the human condition, and can impose itself suddenly, as evidenced in the opening of this very dialogue (17a). Hence, it must be explained if we are to have an adequate account of our – and all other – forms of life. There also seems to be a natural fascination about the symptoms and mechanisms of diseases, particularly among those interested in human physiology, as Timaeus clearly is.

Timaeus divides out a number of different kinds of diseases based on their mode of action; there are excesses and deficiencies of the elements, as well as transpositions of the elements to unnatural locations. This classification is important, because while there is presumably a single form of *health*, it seems at first that *disease* is a term that subsumes multifarious types of afflictions (i.e., that the term *disease* is merely a linguistic unity). By explaining the various physical forms that give rise to disease, Timaeus shows how it is both one and many. He makes a similar point with respect to the different types of bile:

> Now to all these the common name "bile" has been given—I suppose either by certain doctors or else by someone who was able to look at many and dissimilar things and see one inherent kind among them that was worthy of a name. (83c)

The investigation of nature involves one in seeing how things are both a unity and a plurality through a process of dividing and collecting. The doctor undertakes this process for the utilitarian reason of most effectively treating diseases, and has an easy test of the validity of his distinctions. The mysterious "someone" that is able to discern similarities in nature that are *worthy of a name* seems to be the philosopher or scientist who concerns himself with understanding natural phenomena in terms of kinds and whatever accounts for their specific identities. It is important to note that accepting the existence of "inherent kinds" that are "worthy of a name" gives the lie to the nominalism that Timaeus had earlier considered (51c-e). That is, the two sorts of people Timaeus mentions here share the opinion that linguistic distinctions can be made to fit the natural world. The doctor is able to create and evaluate these distinctions regarding the humors of the human body (what is bile?), whereas the

philosopher must ask more general questions that may not admit of empirical proof (what is a cause?). Timaeus has proved himself a capable guide regarding the former set of problems, but his grasp of the latter is not immediately apparent.

To apply this analysis to the current topic, disease is a single entity insofar as anything that acts unmusically (*plemmelesei*) and disrupts the harmony of the body is properly called a disease. The types of disease include excesses and deficiencies of matter (the elements), disruptions in the maintenance of the body's tissues, and the most fundamental disease involving the wasting of bone and marrow. Rather plausibly, excesses of air account for bloating and excess fire produces inflammation. The bodily diseases also have the ability to attack the soul, most clearly in the "sacred disease" of epilepsy, which is caused by bilious attack on the rational part in the head (85a-b). If the disease ultimately results in death, the soul is "cut loose" from its bonds and separates from the body.

In addition to these bodily afflictions Timaeus also explains the genesis of psychic diseases "that arise through the body's condition". Anything that takes the soul away from a condition of sound-mindedness is considered "folly", and this affliction occurs in two forms: madness and stupidity. Excessive pleasures and pains bring on the condition of madness, because when one is too single-mindedly pursuing pleasures and avoiding pains, one is unable properly to employ the rational senses of vision and hearing, nor can one reason correctly in this state. This leads Timaeus into a fierce condemnation of sexual passion; the many intense pains and pleasures that arise from

this state cause a man to be "raving mad for the greater part of his life". While most people hold the shameful and evil actions stemming from this passion to be willful badness, Timaeus suggests instead that "sexual incontinence is a disease of the soul" which is ultimately traceable to the porous nature of the bones. He goes on to explain how all evil is done involuntarily, in what seems a first glance a rather Socratic-sounding pronouncement:

> In fact, just about all such things that are spoken of as lack of mastery in pleasures on the part of the bad and as a reproach, as if they were willingly bad, are not correctly reproached, for no one is willingly bad; but it's rather through some corrupt condition of the body and an uneducated upbringing that a bad man becomes bad, and this is hateful to everyone and comes upon us against our will. (86d-e)

Timaeus adds to the usual Socratic formulation that virtue is knowledge, making virtue dependent not only on education but also on the condition of the body. He thereby provides an added excuse for vice, since Socrates' version implies that the bad one must learn from his mistake, whereas on Timaeus' view one can excuse one's vice as the result of a bodily ailment. This carries the troublesome political implication that the criminal cannot be held responsible for his actions, as the *prophasis* of bodily illness is always ready to hand (as perhaps it was for the missing fourth at the beginning of the dialogue). Timaeus does not seem to view this as problematic, insisting that "when their regimes are bad and their speeches uttered in cities privately and publicly are bad", people are effectively forced to become bad through "two utterly involuntary causes". For this reason, we must "put the blame on the planters more than the planted and the nurturers more than the nurtured". Of course, the "planters" and "nurturers" will not be held accountable either, as they can

excuse their behavior on the exact same basis. Timaeus' conclusion that we must still endeavor to be good, achieving this through our upbringing, pursuits and studies, seems politically naïve in that it presumes that everyone will want to be "healthy" in the manner that Timaeus sees it. He thus gives short shrift to the political necessity of coercive force. Having made this rather hopeful, not to say fanciful, comment, Timaeus notes that it "goes with a different mode of speech", perhaps subtly noting the political dangers of such views. It is also worth noting here that Timaeus' willingness to blame the regime for the individual's failings seems to encourage utopian political reforms.

Timaeus appears eager to turn away from the discussion of badness, insisting "it is more just that good things have their account rather than bad". He begins by declaring that "all the good is beautiful, and the beautiful is not disproportionate", which leads him to suggest that human beings must exhibit proportionality between body and soul. We recognize the need for proportionality between body parts, he notes, and disproportion in this regard is not only ugly but also physically troublesome for the sufferer (87e). We are to view the relation between body and soul similarly, and strive for a fitting proportionality in this area above all. But this formulation is problematic, in that one's invisible soul cannot be *proportionate* to body in the same way that the length of one's legs is proportionate to that of one's arms. This formulation tells us nothing substantive about the proper relationship between body and soul beyond the trite commonplace that one should seek some balance between the two. Nevertheless, Timaeus assures us that the consequences of

disparity between body and soul can be dire; an overly powerful soul "thoroughly shakes [the body] all up from the inside and fills it with diseases", while a domineering body causes one to pursue food at the expense of arguments, which eventually leads to that "greatest of diseases", stupidity. Timaeus' blame of bodily overexertion is relatively straightforward, but the fact that he sees the soul's "strenuous [pursuit of] certain studies and inquiries" to be detrimental is more perplexing. Could the fervent pursuit of philosophy unbalance the body-soul equilibrium in this way, and thereby harm a human being? This stands in contrast to what would seem to be the view of the Platonic Socrates, that the body is an encumbrance on the soul that is to be circumvented in any way possible. On this view, to stop short in one's philosophizing for the sake of bodily health would indicate a radical misappraisal of ends. Timaeus' concern with psycho-somatic balance for the sake of health stands in stark contrast with Socrates' acknowledged debt to Asclepius immediately before his death, which may have implied that he viewed life as a kind of sickness[42].

Timaeus' solution to this problem is to refrain from setting "soul in motion without body nor body without soul". Lest this seem an imperative to philosophize only when jogging, he clarifies that the one who focuses on intellectual matters must also "attend to gymnastics" and vice versa. He thereby gives a justification for applying oneself to music and gymnastic, albeit one that differs greatly from that given in Plato's *Republic*. In that discussion, they originally instituted music for the soul and gymnastic for the body (*Rep.* 376e), but later amended this, saying that both pursuits

[42] see Nietzsche *The Gay Science* §340

were for the sake of "harmonizing" the soul (*Rep.* 410c). The idea that obtaining the proper balance of music and gymnastic harmonizes the two higher parts of the soul would seem to fit particularly well with Timaeus' praise of psychic harmony, so it is strange that he insists on such a large role for the body. Timaeus seems not to want to disregard the body as is done in the *Republic*, where they agree that "a good soul by its own virtue makes the body as good as it can be" (*Rep.* 403d). Timaeus also allows for medical treatment with drugs (89b), with the caveat that they be used only when necessary, whereas in the *Republic* the invasive medicine of Herodicus is rejected for that of "the politic Asclepius" (*Rep.* 407e). Timaeus appears to be more concerned with making us at home in the world than is the Socrates of the *Republic*. As such, he advocates both bodily and psychic motion (88d, 90a), despite having earlier suggested that the mortal form is corrupted by the six disorderly motions (43b) in contradistinction to the orderly rotation of the divinities. The human form is inevitably in motion, at the very least in the activity of breathing, for which Timaeus provides such an extensive explanation. Timaeus comes to terms with this necessity in associating proper movement with health for the "composite animal" man.

Timaeus thus concludes his account of "the bodily part of man", having shown how man can guide himself by reason (89d). He recognizes the need for a more precise account of these issues, but relegates it to the status of a "side-job" because of time constraints. Instead, he moves to summarize the human condition before providing the 'devolution scheme' he had earlier mentioned (42c). His summary brings out the contrasts between the high and low parts of our nature. Our rational part is a sort of

indwelling divinity (*daimona*) that lifts us towards the heavens, which is our proper place—we are "not an earthly, but a heavenly plant". Thus human beings are out of place while living on earth, and our upright posture supposedly attests to a longing for a return to our proper, heavenly place. Nevertheless, there is a certain dignity associated with our upright posture, and this becomes clear in the devolution scheme, where the gods deny this privilege to foolish men.

The dual aspect of our human nature presents us with a choice of pursuing either mortal or divine ends. Despite having just warned us about pursuing that which concerns the soul too fervently (88a), Timaeus here seems to suggest that we devote ourselves to the divine part of our nature, which entails "love of learning" and "true prudence". This will allow us to become like the divine and immortal to the extent we are able, and by well upholding our divine part (*daimon*) we become "supremely happy (*diapherontos eudaimona*). This outlook is very similar to the one Aristotle lays out in the *Nicomachean Ethics*:

> So if the intellect is something divine as compared with a human being, the life that is in accord with the intellect is divine as compared with a human life. But one should not follow those who advise us to think human thoughts, since we are human, and mortal thoughts, since we are mortal, but as far as possible one ought to be immortal and to do all things with a view toward living in accord with the most powerful thing in oneself, for even if it is small in bulk, it rises much more above everything else in power and worth. ... What was said before will be fitting now too: what is appropriate by nature to each being is best and most pleasant for each, and so, for a human being, this is the life in accord with the intellect, if that most of all is a human being. Therefore this life is also the happiest.

Timaeus would seem generally to agree with this statement, but he also does spend considerable time on mortal thoughts and considerations of bodily health, and he warns against immoderate pursuit of "certain studies and inquiries". When put into the context of the likely story as a whole, Timaeus' apparent praise of the philosophic life becomes perplexing in the same way as Socrates' suggesting that Timaeus had reached "the peak of all philosophy". Emulating the divine turns out to consist in examining the coursings of *the all* and making the "circuits in our head" correspond to them, rather than genuine philosophic inquiry and dialectical investigations.

In taking up the final topic in his account, Timaeus notes that he has almost fulfilled his obligation and opts to give only the briefest explanation of the genesis of women and animals. He asserts that "there is no necessity for someone to speak at length", and that by restraining himself in this way he is somehow being more temperate. This admission, occurring just prior to the conclusion of the dialogue, prompts us to wonder about the correspondence between nature and the likely story. If Timaeus' intent were to describe nature as completely as possible, then strict necessity would govern the depth of his treatment of the various issues. The goal would be to 'carve nature at the joints', explaining the divisions and inflections of the whole to the fullest extent, leaving no room for Timaeus' own prudential judgment of the time allocated to each subject. Instead, we are reminded of his assignment to give "an account of the all down to human birth", and are told that it has almost reached its end (*telos*). But if the *telos* of his speech were to 'give birth' to the men that Critias' would then 'naturalize' into the Athenian citizens of old, as was originally suggested (27a-b),

then the devolution scheme appears superfluous, or at least out of place. It is needed insofar as Timaeus' account of *the all* must explain the animals and especially women (if only to account for sexual generation), but they are not essential to the stated purpose of his account. However, insofar as women and animals must be understood in terms of the men from whence they declined, the account of man must logically come first. This indicates a weakness of a sequential or genetic account of the cosmos, in that its sequential progression may conflict with eidetic concerns in this way (cf. 34c, 61c-d).

The devolution scheme begins with the transition from male to female, which Timaeus had earlier described as a divinely ordained punishment for a man "[failing] to live well", this being in contrast to an afterlife of otherworldly happiness in "the dwelling of his lawful star" (42c). We are thus apparently to associate this failure to live well with cowardice and injustice, but are provided with no indication that Timaeus asks the Socratic question of what substantially these conditions are, nor are we told why courage and justice make for a good life. Timaeus often appears suspicious of anger and spiritedness (cf. 42a-b, 69d), and he will soon trace the birth of some of the lower animals to men overly attentive to *thumos*, so a clarification of his view of courage would surely be in order. As regards justice, we are left to wonder what Timaeus considers this problematic virtue to consist in, and in what sense it is good. From the evidence he supplies, it could be anything from an harmonious arrangement of the soul's parts (per the *Republic* account)[43] to 'the other

[43] It is possible that the issue was solved in the *Republic*-like conversation of the previous day, but no mention is made of this critical issue in the "reminder" with which the Timaeus began.

person's good' that one is forced to provide by the threat of divine punishment. His association of divine interest in human justice would seem to rule out the 'positivist' view that justice is simply convention or defined by the law, but no further account is provided. Given the potential consequences of a mistaken understanding of these two virtues, one would expect Timaeus and his interlocutors to be somewhat more explicit on this issue.

The belated arrival of women in Timaeus' account makes it necessary for him to explain sexual reproduction and the organs of generation. His account is basically mechanical, explaining how the universal seed-stuff (*panspermian*, 73c) is transmitted from male to female and then grows within the womb. Timaeus emphasizes the challenge to rationality that the sexual nature of human beings presents for both sexes. Males are encumbered by what seems to be an entirely separate animal that will not listen to reason, while females suffer "the most extreme frustrations" from the unfulfilled potential for pregnancy. We must assume that the actual process of reincarnation is orchestrated so as to implant these souls into appropriate bodies that are born through sexual reproduction. But Timaeus, who was formerly so enamored with mechanistic explanations, does not explain how this process might occur beyond the omnipotent god's willing of it. Finally, Timaeus' description leaves it unclear whether just and courageous women might be reincarnated as men.

In considering Timaeus' description of the animals it is useful to have his explanation of the human upright posture in mind – we are literally pulled between the two poles of heaven and earth, and this is meant to represent a fundamental schism in our nature. The other animals arise from individual human beings who do not act in accord with this distinctive nature. Those who overstep in the direction of the divine, studying the heavens in a foolish but harmless manner, are transformed into birds. Those erring on the other side, completely eschewing the study of the heavens for more earthly pursuits, find themselves transformed into one of a variety of earth-dwelling animals. The degree of stupidity is apparently represented by the animal's proximity to the ground, making the snake the stupidest animal save for those dwelling in water, which are not even fit to breath air due to their total lack of psychic harmony. Timaeus tells us that there is some 'class mobility' between animal forms based on their "shedding and gaining of intellect and folly" (so it seems a particularly studious fish might make it to salamander, while a dullard antelope could be demoted to jackrabbit).

The most striking aspect of this devolution scheme is its severe exclusivity; based on these criteria, there will be comparatively few people serving a second term as human beings, let alone as men. Are we really to believe that all those who do not study either philosophy or astronomy are deserving of bestial reincarnation? What of the soldiers who defend the polity, most of whom would be neither philosophic[44] nor astronomical, but likely courageous and just in the highest degree? Timaeus' devolution scheme seems to license a dangerous contempt for less intelligent people,

who can be treated as soon-to-be cattle, cats, or sea anemones. Even more troubling is the questionable justice of the scheme; unless all differences in intelligence are wholly a matter of nurture and education (a near impossibility, considering the existence of Down's syndrome), then at least some human beings were fated to become animals, and this hardly seems fair. Even if we suppose that nature plays no role, people are still inevitably at the mercy of their respective "planters" and "nurturers". This is indicative of Timaeus' tendency to treat human beings as identical individuals, giving short shrift to the important differences among people in both ability and motivations, and the political considerations that arise from them.

In a final flourish, Timaeus now declares his account of the all has reached its *telos*. It has indeed been "filled up" with all sorts of mortal and immortal creatures. As such, he sees it as a single entity that is "greatest and best, most beautiful and most perfect". When it was first introduced, Timaeus had declared that "the cosmos is the most beautiful of things born and its craftsman the best of causes" (29a), leaving the goodness of the cosmos an open question. Now, having concluded his description of the cosmos, Timaeus is willing to declare it to be "greatest and best" in addition to "most beautiful", implying that his account has succeeded in demonstrating the fundamental goodness of the world. While we can dispute its adequacy and completeness on a number of issues, there is no denying that Timaeus has provided a magisterial oration.

---

[44]Socrates' ironic argument in the *Republic* notwithstanding (375c).

CONCLUSION

Having considered his long speech about the cosmos, we now turn to the question of who Timaeus is and what accounts for his interest in these matters, drawing on the above observations. We are invited to do this by the title of the dialogue, which Plato could easily have titled "Cosmos", perhaps as a sequel to the apparently related dialogue "Regime" (*Politeia*, or *Republic*). It is worth noting in this connection that none of the dialogues where Socrates is not leading the discussion are named after a person, save for the *Timaeus* and *Critias*. It seems that Plato wished to call attention to the particular person responsible for this account of *the all*, leading us to wonder about Timaeus' character and motivations. Socrates does not often speak with 'natural scientists' in the Platonic dialogues (perhaps partly due to their relative

scarcity), so the character Timaeus could potentially provide us with Plato's assessment of the sort of person inclined to natural philosophy, as well as of the strengths and weaknesses of this way, or 'kind'[45], of philosophizing.

Political Considerations

The first description of Timaeus is provided by Socrates, praising Timaeus for having attained both to "the greatest offices and positions of honor in his city" and to "the very peak of all philosophy" (20a). As we noted earlier, this seems to suggest that Timaeus was able to do what Socrates could not – reconcile philosophy and political life. Or to put it another way, Timaeus appears to be a philosopher-statesman, if not a philosopher-king. However, we also recognized that this praise could be ironic, and that the considerable differences between Socrates and Timaeus manifest in their philosophic investigations should make us circumspect about drawing such a conclusion. Nevertheless, it is important to consider how Timaeus is able to achieve this harmonious relationship of philosophy and politics.

It is patently clear from Timaeus' account that he "investigates the things aloft and under the earth", which was one of the charges levied against Socrates by the Athenian polis. Yet Timaeus does not seem to suffer any ill repute for this; on the contrary, he is honored for his work. The suspicions of natural science under which Socrates suffered were not merely blind prejudice, inasmuch as searching for naturalistic explanations of the heavenly bodies is tantamount to denying their

[45] Cf. 47b

divinity[46]. Looking directly to nature for answers to these questions slights the traditional authorities and reveals one's willingness to question the existence of gods. Moreover, by trusting in the existence of natural necessity one betrays one's mistrust of the god's power to influence the natural world as he sees fit. Thus, it is perplexing that Timaeus' cosmological speculations do not cause him to run afoul of his city, which was apparently renowned for its strict laws[47]. He might partially avoid these problems by only discussing such matters in private, but he must have gained something of a reputation for philosophy in order to merit Socrates' praise. Worse, one would expect that his unconvincing explanation of the Greek theogony (40e-a), which expressly denies that it exhibits either likelihood or necessity, would only exacerbate any suspicions on the part of religious believers.

> Now as for the other divinities, to declare and come to know their birth is beyond our power, and one must be *persuaded* by those who have declared it in earlier times since they were offspring of the gods (*so they claimed*), and presumably they, *if anyone*, had sure knowledge of their own ancestors. It's impossible, then, to distrust sons of gods, even if they do speak without either likelihoods or necessary demonstrations; but since *they profess* to be reporting family matters, we must *follow custom and trust them.* (40e, emphasis added)

Timaeus clearly harbors some doubts about the validity of the revealed religion of his day, and it is difficult to see how this reluctant acceptance of the customary account would convince anyone of Timaeus' own orthodoxy. His introduction of the demiurge is similarly suspicious, as it amounts to a skilled finesse of the tension between science and religion. This new divinity supposedly creates the universe according to an eternal, unchanging model, thereby accounting for necessity and

---

[46] See Leibowitz pp. 61-4
[47] Kalkavage p. 50 n. 2

nature, but he remains nominally omnipotent, retaining the power to dissolve his own work should he wish (41ab). This allows Timaeus to appeal to the gods, as does any prudent man in his situation (27c), while still investigating natural necessity. Timaeus possesses some considerable political wiles, and these may be sufficient to keep him clear of conflict with the city[48].

But for all his success in avoiding political conflicts, Timaeus' speech does not show him to be particularly interested in politics. He treats human beings as apolitical individuals that are indifferently alike, thus ignoring the serious political questions raised by the diversity of human natures. He expects that all people will contemplate the heavens, and that those who do not are only accidentally (and temporarily; 91e) human beings. He also disparages the distinctly human passions that are closely bound up with political interaction, such as anger and love (42b, 69d). The absence of politics from Timaeus' account may be partially due to the assigned topic of his speech, which was to set the stage for Critias' more political discourse on Athens and Atlantis. Still, though, an adequate account of human nature must explain our experience as political beings, and it is surely noteworthy that Timaeus consistently shirks this task.

Timaeus' account may, however, be highly political in a less direct fashion, and perhaps without his fully appreciating this fact. To see this possibility, we must return to the original rationale provided for the discussions. Responding to Socrates'

[48] It may also suggest that the charges of atheism played a comparatively small role in the prosecution of Socrates, and that his refutations and supposed corrupting of the youth – which Timaeus probably

desire to hear speeches, Critias proposes to recount the story originally told to Solon by an Egyptian priest, "declaring" the Athenians in the story to be the same as the citizens Socrates spoke of in his *Republic*-like speech of the previous day. Critias then lays out the sequence of speeches, noting that "it seemed good to us" that Timaeus give an account from the birth of the cosmos up to the nature of mankind, at which time Critias would "[receive] from him the men born by his speech" (27a-b). As we noted earlier, Timaeus' account hardly seems to be necessary for Critias' to proceed with his tale, and yet the two dialogues dovetail like no others in the Platonic corpus[49]. It may be that Timaeus' conclusions are useful to Critias, as Timaeus' cosmic idealism somehow makes possible his own political idealism. The account of human nature, downplaying the role of passion and *eros*, and the devolution scheme, which treats unphilosophic people as tantamount to animals, would both be conducive to harsh political measures. Somewhat ironically, Timaeus' apolitical treatment of human beings may actually provide the foundation for the imposition of the strictest political order[50]. This may at first sound somewhat implausible, but the possibility of an 'intellectual' having his work co-opted by a tyrant should hardly be a foreign notion to anyone familiar with the history of the twentieth century. While an adequate defense of this claim would admittedly require a detailed study of the *Critias* in addition to further considerations on the *Timaeus*, it suffices to note this interpretation as a possibility.

---

does not undertake – were more important.

[49] Timaeus' final word on his speech of the Timaeus is actually located in the opening of the Critias, a clear indication that the Critias 'picks up' where the Timaeus left off.

[50] See Kalkavage pp. 42-3 for an interesting treatment of this possibility.

Who is Timaeus?

Leaving aside Critias' possible political motivations for the speeches, it is worth considering what Timaeus himself gains from his participation. His very name, which evokes the Greek word for honor (*timē*), may provide some clue to this, as he is surely not indifferent to the praise Socrates and Critias lavish upon him. Indeed, Critias' comments that Timaeus is "the most astronomical of us" and that he "[knows] about the nature of the all" seem directed to the things Timaeus most prides himself on. He probably enjoys the honor of being considered 'an authority' on such matters, and this may explain the "offices and positions of honor" to which Socrates alludes (20a). Timaeus puts forth no resistance to taking up his assigned task, and the "prelude" to his speech shows him to be comfortable in the role of speaker, expounding confidently on both his own responsibilities and those of his audience (or "judges"; 29d). It seems fair to say that Timaeus is at least partly a "lover of honor as concerns wisdom"[51], though this most 'likely' is not his highest concern (that is, he is not simply a sophist).

Timaeus also appears to get some considerable pleasure from his investigations of the cosmos. He calls attention to this upon concluding the metaphysical portion of his account, suggesting that "[perusing] likely accounts about becoming" provides "a pleasure not to be repented of". Perhaps he means here to distinguish it from most pleasures, of which he generally takes a dim view. Timaeus finds it pleasurable to speculate on the causes of natural phenomena, and he considers this "a temperate and

prudent sort of play" (59c). He also admires the beauty of the cosmic order, and this is evident in his account of the creation of the cosmos, which makes repeated reference to the great beauty of the demiurge's work. For all of his emphasis on beauty, however, Timaeus has an exceedingly formal understanding of this perplexing quality (that is passionately appreciated only by humans) – symmetry, sameness, and mathematical ratios figure prominently in his conception of beauty. While no one would deny that these qualities do contribute to beauty, one can hardly understand beautiful music by reference to the ratios between the notes. Nietzsche puts it quite directly:

> But an essentially mechanistic world would be an essentially *meaningless* world! Suppose one judged the *value* of a piece of music according to how much of it could be counted, calculated, and expressed in formulas – how absurd such a 'scientific' evaluation of music would be! What would one have comprehended, understood, recognized? Nothing, really nothing of what is 'music' in it![52]

The world Timaeus shows us is not "essentially mechanistic", but there is a tendency (or even an eagerness on his part, per 59c) to provide overly simplified, mechanistic accounts of complex phenomena. His contention that our senses of vision and hearing were provided so that we could stabilize the 'circuits' of our soul (47a-e) is one particularly clear example of this. Timaeus may well appreciate the multifarious ways that music can affect the soul, but his remarks do not suggest this; rather, he seems to have gone astray in the way Nietzsche describes.

---

[51] *Protagoras* 343b, cf. Strauss, *Natural Right and History* p.116
[52] Nietzsche *The Gay Science* §373 *'Science' as a prejudice.* (italics in original)

Timaeus apparently misunderstands *eros* in a similar fashion, treating it as a mere desire for begetting (91c-d), and blaming its disruptive effects on the intellect (42a, 69d). He gives no indication that he sees the possibility of sublimating *eros* into higher longings, nor is it easy to see how this sort of sublimation could occur based on the account of human physiology Timaeus provides. Even if he is convinced that *eros* is a purely disruptive passion, and is personally capable of overcoming this "terrible and necessary" affection, he must seek to understand it if he wishes to understand human nature. In limiting *eros* to a bodily desire to copulate, Timaeus risks radically misunderstanding this passion's higher manifestations. Or, alternatively, he actually has no account at all of what energizes man's spiritual and intellectual activities, including his own cosmological speculating. Timaeus' explanations of pleasure, beauty, and love all seem radically incomplete, and it is questionable whether they can adequately account for his own experience. Thus, one can fairly question whether Timaeus really knows himself, and if he could defend his way of life as superior to other plausible claims to the best possible life (Solon's, for instance), or if he is perhaps content that he *happens* to study astronomy and *the all.*

Knowledge and Likelihood

Surely the most distinctive feature of Timaeus' long speech is its emphasis on "likelihood" as a standard rather than rigorous logical demonstration. Yet curiously, the Socratic question 'what is likelihood' is never raised in the dialogue, despite the ambiguity of this term. It is perhaps worth examining our use of the term in the hopes

of clarifying Timaeus' meaning. The most obvious type of "likelihood" is concerning the probability of random processes – the likelihood of this coin showing heads is fifty percent – but this usage never occurs in the dialogue. We also speak of the likelihood of political events, basing this on our prudential judgments of what the involved parties will do (thus, someone who knew him might say it was 'likely' that Timaeus would end up speaking about cosmos). Similarly, when we accept a view from an authority we do not wholly trust, we may refer to it as likely (the bus is likely to arrive in five minutes). Finally, and most pertinent to Timaeus' account, is our use of the term to describe a view that squares with the wider context of our knowledge and trusted beliefs, but is itself unproven. Trusting in these prior beliefs, we accept the new assertion as "likely" in that it squares with our other views. This latter usage seems to be what Timaeus means in most instances. An assessment of likelihood of this sort is therefore a prudential judgment that depends on 1) the validity of one's prior, trusted views, and 2) a correct assessment of whether the idea under consideration fits with them.

It must be noted that even the greatest possible degree of likelihood is not equivalent to logical demonstration. Who would have considered it 'likely' that the earth spins about its axis at a speed of roughly one thousand miles per hour, or that the most solid bedrock is composed of mostly empty space? And yet we now have compelling evidence for both views, such that they are no longer the least bit controversial. An investigation of nature using likelihood as its standard would never have discovered either of these things. As Hegel puts it, "probability loses, in the face of truth, every

distinction of lesser and greater probability – let it be as great as it may, it is nothing against the truth"[53]. But Timaeus seems to view likelihood as appropriate for human beings:

> But if we provide likelihoods inferior to none, one should be well-pleased with them, remembering that I who speak as well as you my judges have *a human nature*, so that it is fitting for us to *receive the likely story* about these things and *not to search further* for anything beyond it. (29d, emphasis added)

It is important here to see that this amounts to a much stronger claim than that our accounts of the perceptual realm are fated to remain hypothetical, lacking something akin to Socrates' dialectical ascent to the *archai* (*Rep.* 511b-c) – the position generally subscribed to by modern empiricists. The main problem here is the paradox of how to determine the *most* 'likely story' except through further (and potentially endless) searching. Thus, Timaeus' is hardly the only possible response to the recognition of the frailty of our human rational powers; a formidable alternative is represented by the silent Socrates. That is, one could deal with one's human limitations by subjecting all of one's opinions to a process of rigorous examination. One would thereby develop varying degrees of confidence (or assessments of likelihood) based on how well each opinion withstands the test of dialectical examination, while always having recourse to that most fundamental knowledge: the knowledge of one's own ignorance of the most important things. Socrates is consistently concerned with problems of epistemology, the divided-line analogy in the *Republic* and the famous paradox of the *Meno* being only two of the most obvious examples of this. In the process of examining his opinions about the world, he is at

---

[53] *Phenomenology of Spirit 250*

the same time exploring the question of what would count as genuine knowledge of these things. Insofar as our understanding of likelihood is dependent on our understanding of rigorous truth, Timaeus should be similarly concerned with these problems. He does not indicate having undertaken any systematic investigation of them, however, as his most detailed treatment of the problem (51d) is cast in the form of a personal vote. The distinctive element of Timaeus' account is not the likely story – everyone has their own 'likely story' in the set of opinions they hold about the world – rather, it is his apparent unwillingness to subject these opinions to dialectical examination. His repeated insistence on not seeking anything beyond the likely story, together with his 'pious' prohibition of experimental verification (68d), effectively ensconces whatever opinions one happens to hold, and to that extent renders them 'unlikely' to change.

Timaeus' likely stories about the cosmos may have a further deleterious consequence, in that they can expunge our feeling of wonder in looking at what are truly wondrous phenomena. We had noted earlier the close connection between philosophy and a feeling of wonder. Likely stories give us reasons to *cease* wondering, content that our present 'knowledge' meets the less demanding standard of likelihood (which in practice often amounts to little more than familiarity). This possibility is hinted at in Timaeus' 'prelude', where he insists that if "we become incapable of rendering speeches that are always and in all respects in agreement with themselves and drawn with precision, *don't wonder*" (29c). Much of his speech actually consists of explaining why a seemingly wondrous phenomenon actually is not wondrous at all, if

one accepts a plausible explanation. Similarly, his explanation of "all that's wondered at" regarding amber and lodestones shows them to be perfectly ordinary, "as will be plain to anyone who inquires in the proper way" (80c). We tend to adopt a similar disposition due to the influence of modern science; confident in our 'knowledge' that 'science tell us' how things work, we can lose sight of how utterly amazing the natural world can be. Kalkavage points us to a comment of Descartes' that is germane here: "That is why, even though it is good to be born with some inclination to this passion [wonder], because it disposes us to the acquisition of the sciences, we must nevertheless try to free ourselves from it as much as possible"[54]. Ultimately, we want to possess wisdom, not love it. But in adopting this view, one runs the risk of becoming like the Egyptian priest we encountered earlier in the dialogue (22b ff.), with old studies "made hoary by time".

There is also an element of haphazardness to the 'likely story' approach, insofar as one can choose what portions of the cosmos to explain, and which to pass over. Timaeus skirts some important issues in his speech, sometimes noting the omission by relegating that particular element to the status of a "side-job" (*parergon*). A detailed account of the heavenly bodies is supposedly a "side-job" of this sort (38e), as is a detailed assessment of the nominalism Timaeus briefly considers (51c). It is possible that Timaeus simply curtails the less essential parts of his account for reasons of brevity and to avoid straying too far from his assigned topic, but this does raise a question as to how completely the likely story describes the cosmos. It is interesting to note in this connection that the first use of the term occurs in connection

[54] Descartes, *The Passions of the Soul* 2.76, quoted by Kalkavage p. 117 n. 154

with a poet, as Solon apparently treated his poetry as a "side-job" that was subsidiary to his duties as a statesman. Incidentally, we can wonder whether philosophy and cosmology are "side-jobs" to Timaeus in a similar fashion, as we are told that he too has a political career of sorts (20a). Perhaps, also then, Plato means for us to associate "side-jobs" with poetry. Poets typically pick up their stories *in medias res*, and decide on whatever amount of attention is devoted to any number of minor issues by means of their aesthetic judgment. Might Timaeus be doing something similar here, thus making the likely story akin to poetry or myth in at least this way?

The Socratic Turn

We are now in a position to compare Timaeus' approach to his cosmic investigations with the alternative implied by Socrates' silent presence. Both attempt an inquiry into nature, by which is meant the being of the beings. That is, they attempt to discover the 'articulations' inherent in nature and thereby rightly understand both the parts and the whole[55]. Although Timaeus does provide an account of the elements that supposedly compose nature, his account is not simply a reductionist view, as is clear from his description of the macroscopic features of the cosmos. He studies the processes of the human body differently from the way he studies astronomy, even if he does ultimately insist that stars and souls are both made up of triangles. The

[55] Strauss, *Natural Right and History* p. 123, cf. Bruell, *The Question of Nature and the Thought of Leo Strauss* p. 9

question is whether he has succeeded in understanding all the parts of the cosmos, and therewith the completed whole.

Socrates and Timaeus also seem to agree on the primacy of the good in understanding the cosmos. For Timaeus, the cosmos is to be seen as the best possible creation, and the demiurge the "best of causes" (29a). He also provides an account of causation which treats intellect directed towards "the look of the best" (46c-d) as the true cause of the phenomena, efficient causes being mere auxiliaries and assistants to this true cause. Socrates' description of his discovery of Anaxagoras in the *Phaedo* is similar, in that it shows Socrates to be seeking an account of nature in terms of the good:

> I heard someone reading, as he said, from a book of Anaxagoras, and saying that it is Mind that directs and is the cause of everything. I was delighted with this cause and it seemed to me good, in a way, that Mind should be the cause of all. I thought that if this were so, the directing Mind would direct everything and arrange each thing in the way that was best. If then one wished to know the cause of each thing, why it comes to be or perishes or exists, one had to find what was the best way for it to be, or to be acted upon, or to act. On these premises then it befitted a man to investigate only, about this and other things, what is best. (*Phaedo* 97c-d)

However, Socrates goes on to suggest that he became dissatisfied with the science of Anaxagoras when he discovered that he does not actually pursue this sort of inquiry, but instead makes "air, and ether, and water" responsible for causation. This is a question for Timaeus' account also: does he give god or the good any more substantive role than the lip-service Anaxagoras paid to "Mind"? One might reasonably conclude that Timaeus' account is largely a mechanistic explanation of the

cosmos with a 'grafted-on' teleology in the form of the benevolent demiurge, and that Socrates' dissatisfaction with Anaxagoras would apply equally to Timaeus. Nevertheless, even if it is a forced harmonization of causes on Timaeus' view, he at least recognizes it to be desirable that such a harmonization be attempted.

The essential difference between Timaeus and Socrates in their investigation of nature is elucidated by another passage in the *Phaedo*, wherein Socrates suggests that Anaxagoras would explain his sitting in prison based on the nature of his bones and sinews which allow him to bend his legs. Socrates observes that, were it not for certain deliberations of his own and of the Athenians, his bones and sinews would be configuring themselves somewhere far away. In this way, Socrates shows that the question of the good confronts us most directly in terms of *our own* good as human beings, and one cannot answer this question without knowledge of oneself and, insofar as human beings are political, knowledge of politics. Even if this good turns out to consist in a life devoted to investigating the trans-political problems of first philosophy, one must be able to defend this type of life over other potential 'best lives' on a political basis. As Xenophon puts it:

> First, he examined whether they came to worry about such matters [of natural philosophy] because they held that they already knew the human things sufficiently, or whether they believed that they were acting properly in disregarding the human things and in examining the divine things [*daimonia*] (*Mem.* I.i.12)

Timaeus may have come to this conclusion for both of these reasons; he is apparently confident that he has provided a satisfactory account of human nature in his likely

story, and there is no mistaking the relatively slight importance he places on the human things as compared to cosmology. But, as I hope the above remarks make clear, Timaeus does not really know himself, nor does he appreciate the political situation within which he finds himself, taking it for granted that contemplating the heavens is the best life for a human being. He has "reached the peak of all philosophy" (20a), but he has not ascended to this height.

According to Socrates' description in the *Phaedo*, his encounter with Anaxagoras precipitated his famous 'turn' from natural science to political philosophy. Cicero credits Socrates with bringing philosophy down from the heavens and into the cities[56], and as we have seen, both Xenophon and Plato remark on it. But none of these sources provide an entirely unproblematic account of Socrates' motivations for effecting this turn. The passages from the *Phaedo* quoted above still leave open the possibility that a rightly conducted, teleological inquiry into nature might be satisfactory to Socrates; and the Xenophon passage permits, at least as a logical possibility, an inquiry into both the human and divine things together. Thus the importance of Plato's *Timaeus*, which portrays Socrates conversing with a natural scientist who would seem to have learned Anaxagoras' lesson regarding causation and the good[57], and which thereby serves as an invitation to think through the true basis for the Socratic turn. Though Socrates does not question the 'likely story' Timaeus provides, politely acceding to Timaeus' exhortation to accept the account as it stands, the reader is implicitly encouraged to ask the kinds of questions Socrates

[56] *Tusc. Disp.* V,4,10
[57] see Gadamer p.173

might, were he feeling free to do so. In the course of this examination, one discovers that Timaeus' account of the whole conceals his ignorance and indifference regarding the human things that Socrates eventually decided were most important. As a result, Timaeus misunderstands himself and cannot even explain his own presence at the conversation. This disposition stands in contrast to the knowledge of one's ignorance and inquiry into the best way of life that characterizes the Socratic approach. In examining Timaeus' account, one comes to the realization that the 'kind of philosophy' Socrates pursues is both more fundamental and more valuable than Timaeus' alternative. This lesson is especially necessary in the present time, as modern science now provides us with a 'story' that is far more likely than Timaeus', but leaves us with the same questions unanswered. By drawing us into a Socratic examination of a scientific account of the cosmos, Plato's *Timaeus* shows us how we can make political philosophy stand together with modern natural science.

BIBLIOGRAPHY

Aristotle. *Aristotle's On the Soul and On Memory and Recollection*, Joe Sachs, trans. Green Lion Press, 2001

Aristotle. *Aristotle's Physics: A Guided Study*, Joe Sachs, trans. New Brunswick: Rutgers University Press, 1995.

Bacon, Francis. *Collected Works of Francis Bacon*. Spedding, Ellis, Heath eds. New York: Routledge, 1996.

Benardete, Seth. 'On Plato's *Timaeus* and Timaeus' Science Fiction,' *Interpretation,* Summer, 1971.

Bruell, Christopher. 'On the Place of the Treatment of Classical Philosophy in the Plan of the Work as a Whole', Conference on *Natural Right and History*, Michigan State University, 2001.

'The Question of Nature and the Thought of Leo Strauss' Conference on *Natural Right and History*, Michigan State University, 2001.

'On Reading Plato Today' in *Political Philosophy and the Human Soul.* Lanham: Rowman & Littlefield, 1995.

Cicero, Marcus Tullius. *Tusculan Disputations.* J.E. King, trans. Cambridge: Harvard University Press, 1945.

Clay, Diskin and Purvis, Andrea. *Four Island Utopias*. Newburyport: Focus Press, 1999.

Cornford, Francis MacDonald. *Plato's Cosmology*. New York: Library of Liberal Arts, 1957.

Craig, Leon Harold. *The War Lover: A Study of Plato's* Republic. Toronto: University of Toronto Press, 1994.

Cropsey, Joseph. 'The Whole as a Setting for Man: Plato's *Timaeus*,' *Interpretation,* Winter, 1989-90.

Descartes, René. *The World.* M.S. Mahoney, trans. New York: Abaris Books, 1979.

Diogenes Laertius. *Lives of Eminent Philosophers.* R.D. Hicks, trans. Cambridge: Harvard University Press, 1980

Gadamer, Hans-Georg. 'Idea and Reality in Plato's Timaeus' in *Dialogue and Dialectic.* New Haven: Yale University Press, 1980.

Hegel, G.W.F. *Hegel's Phenomenology of Spirit.* A.V. Miller, trans. Oxford: Oxford University Press, 1977.

Heisenberg, Werner. *Physics and Philosophy: The Revolution in Modern Science.* New York: Harper & Brothers, 1958.

Kass, Leon R. *Towards a More Natural Science: Biology and Human Affairs.* Free Press: 1988.

Lampert, Laurence and Planeaux, Christopher. 'Who's who in Plato's *Timaeus-Critias* and Why?' *The Review of Metaphysics,* September, 1998.

Leibniz, G.W. *Discourse on Metaphysics and Other Essays.* Hackett, 1991.

Leibowitz, David M. *The Moral and Political Foundations of Socratic Philosophy: A Study of Plato's* Apology. Ph.D. Dissertation, Harvard University, 1996.

Nietzsche, Friedrich. *Untimely Meditations.* R.J. Hollingdale, trans. New York: Cambridge University Press, 1997.

Beyond Good and Evil. R.J. Hollingdale, trans. Toronto: Penguin Books, 1990.

The Gay Science. R.J. Hollingdale, trans. New York: Cambridge University Press, 2001.

Plato. *Apology of Socrates.* Thomas G. West and Grace Starry West, trans., in *Four Texts on Socrates.* Ithaca: Cornell University Press, 1984.

Plato. *Complete Works of Plato.* John M. Cooper, trans. Hackett, 1997.

Plato. *The Republic of Plato.* Allan Bloom, trans. New York: Basic Books, 1991.

Plato. *Timaeus.* R.G. Bury, trans. Cambridge: Harvard University Press, 1975.

Plato. *Timaeus.* Peter Kalkavage, trans. Newburyport: Focus Press, 2001.

Sallis, John. *Chorology: On Beginning in Plato's Timaeus.* Bloomington: Indiana University Press, 1999.

Shorey, Paul. *What Plato Said.* Chicago: University of Chicago Press, 1933.

Strauss, Leo. *Natural Right and History.* Chicago: University of Chicago Press, 1965.

The City and Man. Chicago: University of Chicago Press, 1978.

'The Problem of Socrates,' in *Interpretation.* Spring, 1995.

Taylor, A.E. *A Commentary on Plato's Timaeus.* Oxford: Oxford University Press, 1928.

Xenophon. *Memorabilia.* Amy L. Bonnette, trans. Ithaca: Cornell University Press, 1994.