

THE USES OF THE WORLD SOUL IN PLATO'S *TIMAEUS*

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ABSTRACT

THE USES OF THE WORLD SOUL IN PLATO'S *TIMAEUS*

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The purpose of the present study is to assess the explanatory value of the concept of the World Soul in the cosmological account of Plato's *Timaeus*. The World Soul plays a crucial role in the account of the world of Becoming in the *Timaeus* and in Plato's philosophy of science. The World Soul explains why there is motion at all in the universe and sustains the regularity and uniformity of the motion of the celestial objects. Its constitution and the way it is generated by the Demiurge endow it an intermediary status between the world of Being and the world of Becoming. Through this status the World Soul facilitates the applicability of the items of the former world (Forms and Numbers) in the explanation of the latter, hence makes natural science possible. The appreciation of the place of the World Soul in the natural philosophy of Plato leads us to a better place to view Plato's contribution to ancient natural philosophy and science.

Keywords: Plato, World Soul, *Timaeus*, ancient science, Becoming.

ÖZ

PLATON'UN *TİMAİOS* DİYALOĞUNDA DÜNYA RUHU KAVRAMI

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Bu çalışmanın amacı, Dünya Ruhu kavramının, Platon'un *Timaios* diyalogunda ortaya koyduğu kosmoloji anlatısı içindeki açıklayıcı özelliğini ortaya koymaktır. Dünya Ruhu, *Timaios*'taki Oluş dünyası izahında ve Platon'un bilim felsefesinde önemli bir rol oynamaktadır. Dünya Ruhu kavramı, evrendeki bütün hareketi mümkün kılan şeyin ne olduğu sorusuna bir cevaptır ve gök cisimlerinin hareketlerinin düzenliliğini ve tekbiçimliliğini sağlar. Yapısı ve Zanaatkar tanrı tarafından meydana getiriliş biçimi, Dünya Ruhu'na, Oluş ve Varlık alemleri arasında aracı bir konum kazanmasını sağlar. Bu konumu sayesinde Dünya Ruhu, Oluş aleminin açıklanmasında Varlık aleminin nesnelere (Formlar ve Sayılar) kullanılmasını ve böylece bütün doğa bilimini mümkün kılar. Dünya Ruhu'nun Platon'un kozmolojisi içindeki yeri anlaşıldığı takdirde, Platon'un ilkçağ doğa bilimlerine yaptığı katkıyı daha iyi değerlendirebilecek bir mevkiye sahip oluruz.

Anahtar Kelimeler: Platon, *Timaios*, Dünya Ruhu, ilkçağ bilimi, Oluş.

Anneannem ve dedeme

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CHAPTER I

INTRODUCTION: ARISTOTLE'S PROBLEM

The *Timaeus* is Plato's main cosmological text. In it he lays out his theory of how the sensible world came to be as an ordered world, as *kosmos*. In order to do this, Plato presents a theory of the genesis of the world, the creation of its body and soul, the appearance of the four elements and the causes that operate to occasion that these changes take place, namely the causes of the Demiurge and necessity. The story develops in the Presocratic manner so as to include the creation of the smaller (than the world at large) living bodies and humans, and their society. Thus the assumed present order of the world is provided with a genetic account in the *Timaeus*, one of the few occasions where we can read Plato's direct views on the sensible world and the types of entities and particulars that populate it.

The *Timaeus*, however, is not just a work in natural philosophy. Although the main issue in the dialogue is to account for the world totally as well as with respect to its parts, it begins with an account of the ideal state, reminiscent of the *Republic*. Moreover, how to lead a happy life and the cures to immorality are among the items that receive mention, as well as perception and other epistemological issues. The discourse on the physical world necessitates also a metaphysical discourse for Plato. The cosmological account begins with

definitions of metaphysical concepts like Being, Becoming and forms and it incorporates the concept of a benevolent god that operates to devise the world as we know and experience it. Thus the sensible world of Becoming is accounted for, and is accountable only with respect to the unchanging world of Being for Plato.

Though the world of being, the eternal unchanging forms, are brought in to account for this very sensible world and the various entities that inhabit it, it is hard to tell whether it is worth the effort, given now the huge problem of linking the two worlds, of explaining how they relate to each other, how the changing particulars copy their eternal unchanging forms. The problem of the relation of the two worlds naturally appears as soon as the Theory of Forms is posited. And Plato has written to a much greater extent on the problem in his other dialogues, e.g. the *Phaedo*, the *Republic*, and the *Parmenides*, not to mention the incalculable secondary literature on the issue beginning with Aristotle down to our day. In the case of the *Timaeus*, it is the Demiurge that contrives the world of Becoming by looking at a perfect unchanging model (form) of the universe. By way of the Demiurge, it seems, a benevolent crafty god, does Plato elaborate on the problem of relating the two worlds. The world as we know it has an intelligible order which it owes to the artisanship of the god who, being good and possessing no envy, wanted it to be as similar to him as it could (30a-b).

The Demiurge is not Plato's only solution to the problem of the relation between two worlds. Plato brings in some other concepts to bridge the two worlds. The soul is one of the most important entities through which Plato elaborates on the relation of the two realms. The Demiurge, being the 'most

excellent of all that is intelligible and eternal' (37a) possessing no envy in himself, wanted his work to be as similar to himself as possible. In order to accomplish this, the universe also had to have a soul so that it could also possess intelligence, for any intelligent thing is categorically better than any non-intelligent thing (30a-b). The god thus fixes the world soul into the world's body, embellishing his work with rationality, intelligence and life. The introduction of the soul into the world's body is an intriguing attempt in Plato's cosmology, a work that has an aim to explain the world of becoming. For it gives rise to other problems besides those it solves. For one, what is the explanatory value of an entity that is not part of the Becoming in an account that has an aim to explain the Becoming? Is it part of the *explanans* or part of the *explanandum*? How are we justified in using the principles that do not belong to the domain of Becoming as such, to explain the very domain of Becoming? For another, what does it mean to say that the all, the world is a living thing? It is not a commonsensical idea that the world *in toto* should have a life on its own, nor was it in Plato's time.¹ So there should be given some explanation as to why the world as a whole is to have a soul and not only some of its inhabitants, like animals and humans and gods. But in order to see more clearly the problems of the imposition of the soul into a cosmological dialogue, a work on natural philosophy indeed, one should better begin by a question that Aristotle poses in his natural writings that is still relevant to Plato's examinations: To what extent is an inquirer into nature allowed to theorize on the soul?

¹ Parry, Richard D., 1991, "The Intelligible World-Animal in Plato's *Timaeus*", *Journal of the History of Philosophy* 29:1. p.13.

1.1 Aristotle's Question:

For Aristotle, the study of the soul is all too important. In the *De Anima*, the importance of the study is attested in the opening lines: “The knowledge of the soul admittedly contributes greatly to the advance of truth in general, and, above all, to our understanding of Nature, for soul is in some sense the principle of animal life”.² In the science of nature, the study of the soul is illuminating because soul is what differentiates the living from the non-living. That Aristotle does not question the issue of the place of the study of the soul in a natural inquiry in the *De Anima*, can be explained by the nature of the work. It is not a self-proclaimed work on nature. And as Falcon Andrea maintains, to whose work I am heavily indebted in this chapter, neither is it explained in the programmatic overview of his inquiry into nature in the *Meteorology*³, as it is merely a synopsis that Aristotle gives there.⁴ But Aristotle does open the issue to question in the *Parva Naturalia*, his works on nature. In the *Parts of Animals (PA)*, he claims the following:

If now the form of the living being is the soul, or part of the soul, or something that without which the soul cannot exist...then it will come within the province of the natural scientist to inform himself concerning the soul, and to treat of it, either in its entirety, or, at any rate, of that part of it which constitutes the essential character of an animal; and it will be

² All the translations of Aristotle are from Barnes, J. (ed.) (1984), *Complete Works of Aristotle*, vol I&2 (Princeton: Princeton University Press).

³ *Meteorology* I1 338a20-b31. “We have already discussed the first causes of nature, and all natural motion, also the stars ordered in the motion of the heavens, and the corporeal elements – enumerating and specifying them and showing how they change into one another – and becoming and perishing in general. There remains for consideration a part of this inquiry which all our predecessors called meteorology. It is concerned with events that are natural, though their order is less perfect than that of the first of the elements of bodies”..

⁴ Falcon, A. (2005), p. 17.

his duty to say what a soul or this part of a soul is and to discuss the attributes that attach to this essential character...⁵

For Aristotle, in order to understand the animal, one has to study its soul as the soul is that principle that renders it a living being. Without getting into the further intricacies of his thoughts on animal life, we can see the question he set forward to himself and the answer to it:

What has been said suggests the question, whether it is the whole soul or only some part of it, the consideration of which comes within the province of natural science. Now if it be of the whole soul that this should treat, then there is no place for any other philosophy beside it. For as it belongs in all cases to one and the same science to deal with correlated subjects - one and the same science, for instance, deals with sensation and with the objects of sense – and as therefore the intelligent soul and the objects of intellect, being correlated, must belong to one and the same science, it follows that natural science will have to include everything in its province. But perhaps it is not the whole soul, nor all its parts collectively, that constitutes the source of motion; but there may be one part, identical with that in plants, which is the source of growth, another, namely the sensory part, which is the source of change of quality, while still another, and this not the intellectual part, is the source of locomotion. Thus then it is plain that it is not the whole soul that we have to treat. For it is not the whole soul that constitutes the animal nature, but only some part or parts of it.⁶

Natural philosophy does not study the soul in its entirety but only inasmuch as it is related to bodies and as Aristotle makes clear here, in its relation to motion. Only that part of the soul which accounts for motion in living things (here growth, perception and locomotion) will be studied by natural science. And it is that part of the soul that is in both animals and plants and that part which is only in animals

⁵ *PA* (641a19-25). For a discussion of the passage, see the commentary by Lennox (2001). For modern discussions on the study of the soul in Aristotle's natural philosophy, see Witt (1992); Lloyd (1996); Charlton (1987).

⁶ *PA*, (645a33-b10).

that qualify for the task. The study of the intellect is excluded.⁷ If the science of nature were to study the soul in its entirety, there would be no subject that is outside the domain of it. Philoponos, the 6th-century Neoplatonic commentator (usually hostile to Aristotle), gives an exposition of the passage in the Prooemium of his *Commentary on Aristotle On The Soul* at 10, 10-25:

And <there is the question>, he says, whether the student of nature is to discuss the whole soul or not the whole soul but only that which is not without matter. Therefore, he is aware that soul is separable from matter. For if the student of nature is to speak about the whole soul, he says, it is clear that he will also speak about the intellect; but if he is also to speak about the intellect, he will of necessity speak about the intelligible objects. For the intellect is intellect of intelligible objects, as sense perception is perception of perceptible objects; for they are relational things. But to discuss the intelligible objects is the task of the first philosopher. It will therefore follow from this that the student of nature will cover all things, which is absurd, both perceptible objects because of sense perception, and intelligible objects because of intellect.⁸

It is not the case that two different sciences study, one, a faculty of the soul and the other, its correlated objects. All that is intelligible would have to be studied if the natural scientist also had to study the intelligent part of the soul (*nous*). This is further supported by Aristotle's remarks in *Metaphysics*:

... it belongs to the student of nature to study soul to some extent, i.e. so much of it as is not independent of matter. – That natural science, then, is theoretical is plain from these considerations. Mathematics also is theoretical; but whether its objects are immovable and separable from matter, is not at present clear; it is clear, however, that it considers some mathematical objects *qua* immovable and *qua* separable from matter.⁹

⁷ In this sense, it is hard to make sense of R. French's remark in (1994) p. 39 that "Aristotle is drawing into his realm [of the study of nature] what his predecessors had thought belonged to some other field of study [i.e. the study of the soul]" while it is first Aristotle that makes these very distinctions.

⁸ van der Eijk (2005).

⁹ *De Anima*, 1026a5-10.

Aristotle does not want to push the study of mathematical objects under the heading of natural philosophy. And any other science that has its objects immovable and separable from matter is outside the domain of natural science. Soul, as long as it is intellect, is also outside the domain of natural science, for intellect can be thought and can operate separate from the matter in which it is, but the other parts of the soul cannot.

Almost a century after Philoponos, another Neoplatonic commentator, this time, Simplicios, who is an adherent of the view of the harmony of the philosophies of Aristotle and Plato, thinks that Aristotle's demarcation of the domains of the inquiries arise from the dual status of the soul, or rather from its intermediate character between the worlds of Being and Becoming. After exposing the same passage of the *Parts of Animals* in his *Commentary on Aristotle On the Soul*, he does not just stop with the explication of the passage like Philoponos but talks about the status of the soul:

For Aristotle seems to take both natural science and metaphysical philosophy in a broad sense, so as to include the soul, extending the first up, the second down. For it is clear that the soul is not an essential determination among the natural forms of the body, but it is more a form of animals, and they are principles of undergoing change, the soul of initiating it. It is a property of the ensouled to be moved by themselves, as is said in *Physics*, Book 8. But neither is the intellective element in the soul like the supernatural, purely invisible, wholly unchanging and clear. So, if one were marking off the limits of the philosophies, on one side natural, on the other metaphysics, that of the soul will be between the two; it itself is seen in breath, or rather in depth, to the extent that the intellective element of the soul is distant from sensation and vegetation. It is clear that scientific study of the soul is like that, since the *status* of the soul is such as to be between the supernatural and the natural, and such as

to have something in common with the supernatural, something descending into the natural.¹⁰

Simplikios, as a devout Platonist, naturally has studied the *Timaeus* and has the understanding of this work in his mind when he explicates these passages of Aristotle. He links the ambivalent discourse on the soul to the ambivalent ontological status of the soul. As an entity between the natural and the supernatural, it is studied by both and it extends each one to the other, the natural up and the supernatural down. But how are we to understand the metaphor of the two worlds converging to a middle place? How is the soul explained by claiming that its study has to do with the supernatural descending into the natural? The two realms are separated. The inquiries concerning each are also separated. Nevertheless they and the inquiries are also in relation. Soul seems to unite the two realms by participating in both. But how is it possible to understand something that is in both places at the same time? How can one and the same thing be both eternal and changing? Even if different parts of the soul have these properties, how are they united to make up the whole?

All these distinctions to be watched between different areas of philosophy and the extra luggage of problems above that they carry with themselves are valid questions for Plato's cosmological text, the *Timaeus*. For Plato does inquire into nature in some sense. He tries to explain why and how the world of becoming has come to be the way it is. He tries to explain all the different manifestations of the world of becoming, from the universe at large to the heavens, to the humans, to

¹⁰ Urmson, and Lautner (1995), 3, 5-21. For a medieval discussion of the problem of the study of the soul in natural philosophy by Thomas Aquinas, see Foster and Humphries (1951), § 23-27. For a renaissance overview of the topic, see Bakker (2007).

the four elements. In light of the discussion of Aristotle on the status of the soul in the science of nature, we are faced with the following a dichotomy: Either Aristotle's reasoning is not sound or Plato has to account for why he uses soul in his natural philosophy. And assuming that it is a valid question that is posed and considered by Aristotle, we have to question Plato's mention of soul in his cosmology.

The question is even more pressing for Plato when we consider for which purposes Plato introduces the notion of soul in his account. As we have seen, for Aristotle, the soul is included the study of nature just inasmuch as it is a principle of life, and what is necessary for this is not the whole soul but the only the enmattered soul, that is, the part of soul that cannot exist without the body. Hence intellect is not among the objects of the study of nature as it neither necessitates nor is inexplicable without the body. However, this is precisely why Plato introduces the idea of the soul. As we have seen for Plato, the soul is there just because it is an abode for the intellect to make the generated world as god-like, as beautiful, as better as possible.

Timaeus: Very well, then. Now why did he who framed this whole universe of becoming frame it? Let us state the reason why: He was good, and one who is good can never become jealous of anything. And so, being free of jealousy, he wanted everything to become as much like himself as possible. In fact, men of wisdom will tell you (and you couldn't do better than accept their claim) that this, more than anything else, was the most preeminent reason for the origin of the world's coming to be. The god wanted everything to be good and nothing to be bad so far as that was possible, and so he took over all that was visible – not at rest but in discordant disorderly motion – and brought it from a state of disorder from one of order, because he believed that order was in every way better than disorder. Now it wasn't permitted (nor is it now) that one who is supremely good should do anything but what is best. Accordingly, the god reasoned and concluded that in the realm of things naturally visible no unintelligent thing could as a whole be better than anything that possess

intelligence as a whole, and he further concluded that it is impossible for anything to come to possess intelligence apart from the soul. Guided by this reasoning, he put intelligence in soul, and soul in body, and so he constructed the universe. He wanted to produce a piece of work that would be as excellent and supreme as its nature would allow. This, then, is how we must say divine providence brought our world into being as a truly living thing, endowed with soul and intelligence.¹¹

Plato wants to give an account of something in his natural philosophy which is the very thing that Aristotle bans from the study of nature. Plato wants to explain the physical world, and in order to investigate its order, its beauty (which can also be said to be a physical character of the universe) he makes the Demiurge to place a soul inside the world's body. Plato wants to explain why the world is intelligent and possesses reason. Aristotle, on the other hand, claims that we cannot inquire into the intellect while studying nature because then we would also have to inquire into the intelligibles, like Forms, mathematical, and soul (to some extent) and the Demiurge (in Plato's cosmology). Thus for Aristotle, either there is no other philosophy than Plato's cosmology or Plato should study only that part of the soul that pertains to the life-character of the living beings and leave the intellect out. Why does Plato do the opposite? And putting intellect into the soul

¹¹ All the translations from the *Timaeus* are by Zeyl in Plato (2000); all the Greek texts of Plato are from the collection at <http://www.perseus.tufts.edu/cache/perscoll_Greco-Roman.html>. *Timaeus*, 29d-30c. λέγωμεν δὴ δι' ἥντινα αἰτίαν γένεσιν καὶ τὸ πᾶν τόδε ὁ συνιστὰς συνέστησεν. ἀγαθὸς ἦν, ἀγαθῷ δὲ οὐδεὶς περὶ οὐδενὸς οὐδέποτε ἐγγίγνεται φθόνος· τούτου δ' ἐκτὸς ὧν πάντα ὅτι μάλιστα ἐβουλήθη γενέσθαι παραπλήσια ἑαυτῷ. ταύτην δὴ γενέσεως καὶ κόσμου μάλιστ' ἂν τις ἀρχὴν κυριωτάτην παρ' ἀνδρῶν φρονιμῶν ἀποδεχόμενος ὀρθότατα ἀποδέχοιτ' ἂν. βουλευθεὶς γὰρ ὁ θεὸς ἀγαθὰ μὲν πάντα, φλαύρον δὲ μηδὲν εἶναι κατὰ δύναμιν, οὕτως δὴ πᾶν ὅσον ἦν ὁρατὸν παραλαβὼν οὐχ ἡσυχίαν ἄγον ἄλλὰ κινούμενον πλημμελῶς καὶ ἀτάκτως, εἰς τάξιν αὐτὸ ἤγαγεν ἐκ τῆς ἀταξίας, ἠγησάμενος ἐκείνο τούτου πάντως ἄμεινον. θέμις δ' οὐτ' ἦν οὐτ' ἔστιν τῷ ἀρίστῳ δρᾶν ἄλλο πλὴν τὸ κάλλιστον· λογισάμενος οὖν ἠύρισκεν ἐκ τῶν κατὰ φύσιν ὁρατῶν οὐδὲν ἀνόητον τοῦ νοῦν ἔχοντος ὅλον ὅλου κάλλιον ἔσεσθαι ποτε ἔργον, νοῦν δ' αὐτὸ χωρὶς ψυχῆς ἀδύνατον παραγενέσθαι τῷ. διὰ δὴ τὸν λογισμὸν τόνδε νοῦν μὲν ἐν ψυχῇ, ψυχὴν δ' ἐν σώματι συνιστὰς τὸ πᾶν συνετεκταίνετο, ὅπως ὅτι κάλλιστον εἶη κατὰ φύσιν ἀρίστον τε ἔργον ἀπειργασμένος. οὕτως οὖν δὴ κατὰ λόγον τὸν εἰκότα δεῖ λέγειν τόνδε τὸν κόσμον ζῶον ἔμψυχον ἔννοον τε τῇ ἀληθείᾳ διὰ τὴν τοῦ θεοῦ γενέσθαι πρόνοιαν.

of the whole, the universe is as much anti-commonsensual as it could be. How are we to understand this 'madness' of the Demiurge?

CHAPTER II

AN EXPOSITION OF THE *TIMAEUS*

The *Timaeus* is one of the most intriguing of Plato's dialogues. It was the most widely-read text of Plato for centuries.¹² For the ancient Neoplatonic commentators, the *Timaeus* was most important text of Plato in the curriculum of philosophical study for it contained almost all aspects of the philosophy of Plato as the number of commentaries on the work show. It is only in the modern times that it gave way to other texts like the *Republic*, or the *Phaedo*, due to the interest in the ethical and political thinking. However interest in the *Timaeus* reappeared after the first quarter of the 20th century.

There is a certain debate as to the place in the Platonic corpus the dialogue occupies. It has been traditionally held to be one of Plato's late works as for the same reason that it was the last text read in Platonic education for the Neoplatonic interpreters. This view has been dominant for well into the 20th century, until G. E. R. Owen published his article on the issue.¹³ Interpreting the stylometric work of the preceding century, Owen challenged the traditional view. Most basically he

¹² The *Timaeus* was basically the only work of Plato known in the early middle ages till the 12th century. Till then, a piece of the work (down to 44a) had survived with a translation and commentary by the 4th century Platonist Chalcidius.

¹³“Owen (1986).

held that if one regards the *Timaeus* as a late work, one cannot make sense of the development of Plato's thought (especially with respect to the *Parmenides* and the *Theaetetus*), and would have to attribute great inconsistencies to his thought. Thus he suggested that the text be placed between the *Republic*, being a middle work and the other two late ones above. Though Owen's work created a lively dispute and scholars came to reassess the place of the *Timaeus* within the Platonic corpus it came to be challenged by Harold Cherniss¹⁴ among others. Both Owen's interpretation of the stylometry of Plato and his more philosophical objections to seeing the work as one of the late period came under suspicion so that now it does not have the convincingness it had when it first appeared. However there is no longer a silencing consensus on the issue.

Though it is mainly a work on natural philosophy, the dialogue surprisingly opens with a political section, in which Socrates reminds people of the talk of yesterday. For the *Timaeus* is in fact a piece of a trilogy, the first work of it indeed, as it talks about the origin of the universe down to the creation of humankind, after which the *Critias*, which being unfinished breaks in the middle of a sentence, talks about the ancient Athenian society, a politically ideal state. A third, the *Hermocrates*, is never actually written as it is not attested in even ancient sources.

The setting of the dialogue is telling, for the dialogue, as noted above, opens up with a discussion of yesterday's talk. The time of the year is the Panathenaea festival, the festival for the patron deity of Athens, Athena. Socrates gives a speech on the ideal state yesterday as a celebration of the deity and now

¹⁴ Cherniss (1965).

expects Timaeus and others to give honouring speeches to the goddess. The *dramatis personae* other than Socrates and Timaeus include Hermocrates and Critias (Plato's great-grandfather). This makes up an elite make-up which coincides with the way the dialogue is meant; it is not for the public but for the most learned in the society.

Timaeus is from Locri, an Italian city "under the rule of excellent laws" (20a2), an important indicator of the philosophical orientation of the person as a Pythagorean. He is introduced as 'expert in astronomy and has made it his main business to know the nature of the universe' (27a). Hermocrates is also from Italy, a Syracusean in fact. *Critias* is an Athenian and the great-grandfather of Plato, and his grandfather, of whom there is a mention in the dialogue within the Atlantis story, is a friend of Solon. Although the number of those taking part in the dialogue add up to four including Socrates, though the main part of the dialogue is a long speech by Timaeus.

2.1 Prelude: The Atlantis Story

In the beginning of the dialogue, Socrates, meeting the other three characters, reminds them of yesterday's speech which is reminiscent of parts of the *Republic*. However the dramatic intention can hardly be an allusion to the *Republic* as neither all of the issues discussed in that dialogue are mentioned nor all of those concerning the state. Socrates talks about the qualities of a perfect state but now wants to see the state in action so as to have an opportunity to reassess its perfection with respect to its functionality. At this point Critias

intervenes, reciting of the Atlantis story which he claims to have heard from his grandfather. The story is passed on to him through a line of succession, which leads ultimately to Solon and the hieroglyphic writings from which an Egyptian priest informs the latter about the events. The story is about how ancient Athens fought against the spread of the powerful Atlantis and ultimately defeated it as the latter claimed to invade all the lands of Asia and Europe. The story, which “is no made-up story, but a true account” is thought to serve the task Socrates has assigned, that is, the depiction of the ideal state in action as it is judged that ancient Athens is so similar a state as the ideal one outlined by Socrates (25e-26e). Though Socrates at first hand asks Critias to continue with his speech, Critias suggests instead that they have already arranged a series of speeches in order and Timaeus is to initiate the series “beginning with the origin of the world and concluding with the nature of human beings”, and that he will then continue with his account of the actual Athenian citizens with perfect laws (27a-b). This is where Timaeus takes on the speech and the cosmological account of the origin and the nature of the universe begins.

2.2 The Being/Becoming Distinction and the Status of the Cosmological Account

Timaeus begins his speech with a metaphysical distinction. This distinction is important for the whole of the dialogue and with respect to Plato’s method of studying the sensible world. So it is best to quote this in full.

As I see it, then, we must begin by making the following distinction: What is *that which always is and has no becoming*, and what is *that which*

becomes and never is? The former is grasped by understanding, which involves a reasoned account. It is unchanging. The latter is grasped by opinion, which involves unreasoning sense perception. It comes to be and passes away but never really is. Now everything that comes to be must of necessity come to be by the agency of some cause, for it is impossible for anything to come to be without a cause. So whenever the craftsman looks at what is always changeless and, using a thing of that kind as his model, reproduces its form and character, then, of necessity, all that he completes is beautiful. But were he to look at a thing that has come to be and use as his model something that has been begotten, his work will lack beauty.¹⁵

The dichotomy of the intelligible and the sensible world is the starting point of Timaeus' exposition of how the world came to be. Being is unchanging, grasped by the understanding and never becomes. Becoming, on the other hand, necessitates a cause for itself to become and never is in the proper sense of the term, which is allocated for Being. Therefore a lower form of cognition corresponds to it. That is, we come to know about Becoming by opinion. Timaeus hints that his exposition will not be able to fulfill the standards of a 'reasoned account' as the world is a world of becoming. Moreover the agency of the craftsman, the *demiourgos*, is also introduced at the very beginning of the account. It will be the demiurge which will make the universe, will be the cause of the coming to be of that which becomes but never is. The last important metaphysical relation that supersedes the physical world is the model copy relation. For Timaeus the world is beautiful, in fact "of all the things that have

¹⁵ *Timaeus*, 27d-28b. ἔστιν οὖν δὴ κατ' ἔμῃν δόξαν πρώτον διαιρετέον τάδε· τί τὸ ὄν αἰεί, γένεσιν δὲ οὐκ ἔχον, καὶ τί τὸ γιγνόμενον μὲν αἰεί, ὄν δὲ οὐδέποτε; τὸ μὲν δὴ νοήσει μετὰ λόγου περιληπτόν, αἰεὶ κατὰ ταῦτά ὄν, τὸ δ' αὖ δόξη μετ' αἰσθήσεως ἀλόγου δοξαστόν, γιγνόμενον καὶ ἀπολλύμενον, ὄντως δὲ οὐδέποτε ὄν. πᾶν δὲ αὖ τὸ γιγνόμενον ὑπ' αἰτίου τινὸς ἐξ ἀνάγκης γίγνεσθαι· παντὶ γὰρ ἀδύνατον χωρὶς αἰτίου γένεσιν σχεῖν. ὅτου μὲν οὖν ἂν ὁ δημιουργὸς πρὸς τὸ κατὰ ταῦτά ἔχον βλέπων αἰεί, τοιοῦτω τινὶ προσχρώμενος παραδείγματι, τὴν ἰδέαν καὶ δύναμιν αὐτοῦ ἀπεργάζεται, καλὸν ἐξ ἀνάγκης οὕτως ἀποτελεῖσθαι πᾶν·

come to be, our world is the most beautiful” (29a). Hence it must be made as a copy of a model which is itself beautiful. And a model that is not changing, that is not becoming is a beautiful model, rather than one that has come to be. Hence the model for the fashioning of the world used by the demiurge is an unchanging eternal model.

Timaeus next asks if the world has come to be, if it has an origin or if it has always been. He argues that because the world is both tangible and visible, and it has a body, it has come to be (28b). Anything that has a body is visible, and anything visible is grasped by sense perception. Sense perception on the other hand is correlated to Becoming. Hence because it is a world of becoming, it has come to be. Necessarily because it is a world that has come to be, it has to have a cause. And here Timaeus makes his first methodological intervention within the account: “Further, we maintain that, necessarily, that which comes to be must come to be by the agency of some cause. Now to find the maker and the father of this universe is hard enough, and even if I succeeded, to declare it to everyone is impossible” (28c). Though Timaeus attributes a cause for the coming to be of the world, and though he has already called it the demiurge, he thinks that it is hard to identify him and to rationally speak about it to people. This betrays a sceptical attitude to the discourse and it hints that the demiurge is only a catchword for the task, the task of the coming to be of the universe.

Timaeus’ most conspicuous methodological intervention to the discourse on the natural world follows this remark on the difficulty of finding the maker of the world. Because this section bears on the entirety of the account, it is best to see it full:

Since these things are so, it follows by unquestionable necessity that this world is an image of something. Now in every subject it is of utmost importance to begin at the natural beginning, and so, on the subject of an image and its model, we must make the following specification: the accounts we give of things have the same character as the subjects they set forth. So accounts of what is stable and fixed and transparent to understanding are themselves stable and unshifting. We must do our very best to make these accounts as irrefutable and invincible as any account may be. On the other hand, accounts we give of that which has been formed to be like that reality, since they are accounts of what is a likeness, are themselves likely, and stand in proportion to the previous accounts, that is, what being is to becoming, truth is to convincingness. Don't be surprised then, Socrates, if it turns out repeatedly that we won't be able to produce accounts on a great many subjects – on gods or the coming to be of the universe - that are completely and perfectly consistent and accurate. Instead, if we can come up with accounts no less likely than any, we ought to be content, keeping in mind both I, the speaker, and you, the judges, are only human. So we should accept the likely tale on these matters. It behooves us not to look for anything beyond this.¹⁶

The account of what is only a copy being a likely account is a great matter for interpreters. Beginning from the initial readers of the dialogue, there was a divide between how to understand the 'likely' status of the account. While Aristotle interprets the dialogue in a literal manner and evaluate the claims that are in it under this light, Speusippus and Crantor, the first successors of Plato as the head of the Academy thinks the account to be a rather metaphorical one and judge the validity of the arguments in the dialogue by taking this status of likeliness into

¹⁶ *Timaeus*, 29b-d. τούτων δὲ ὑπαρχόντων αὐτῶν πᾶσα ἀνάγκη τόνδε τὸν κόσμον εἰκόνα τινὸς εἶναι. μέγιστον δὲ παντὸς ἄρξασθαι κατὰ φύσιν ἀρχήν. ὡς οὖν περὶ τε εἰκόνας καὶ περὶ τοῦ παραδείγματος αὐτῆς διοριστέον, ὡς ἄρα τοὺς λόγους, ὧν πῆρ εἰσὶν ἐξηγηταί, τούτων αὐτῶν καὶ συγγενεῖς ὄντας· τοῦ μὲν οὖν μονίμου καὶ βεβαίου καὶ μετὰ νοῦ καταφανοῦς μονίμου καὶ ἀμεταπτώτουσκαθ' ὅσον οἶόν τε καὶ ἀνελέγκτοις προσήκει λόγοις εἶναι καὶ ἀνικητοῖς, τούτου δεῖ μηδὲν ἐλλείπειν τοὺς δὲ τοῦ πρὸς μὲν ἐκεῖνο ἀπεικασθέντος, ὄντος δὲ εἰκόνας εἰκότας ἀνὰ λόγον τε ἐκείνων ὄντας· ὅτι περὶ πρὸς γένεσιν οὐσία, τοῦτο πρὸς πίστιν ἀλήθεια. ἔαν οὖν, ὡς Σώκρατες, πολλὰ πολλῶν πέρι, θεῶν καὶ τῆς τοῦ παντὸς γενέσεως, μὴ δυνατοὶ γινώμεθα πάντη πάντως αὐτοὺς ἑαυτοῖς ὁμολογουμένους λόγους καὶ ἀπηκριβωμένους ἀποδοῦναι, μὴ θαυμάσης· ἀλλ' ἔαν ἄρα μηδενὸς ἤττον παρεχώμεθα εἰκότας, ἀγαπᾶν χρὴ, μεμνημένους ὡς ὁ λέγων ἐγὼ ὑμεῖς τε οἱ κριταὶ φύσιν ἀνθρωπίνην ἔχομεν, ὥστε περὶ τούτων τὸν εἰκότα μῦθον ἀποδεχομένους πρέπει τούτου μηδὲν ἔτι πέρα ζητεῖν.

consideration. The issue has not been settled down to our day and continues to divide the modern scholars.

The discourse on a particular topic is given shape by the particular quality that topic possesses. If the subject matter is an eternal being that does not undergo any change, the discourse will have to show similar qualities, hence it will be certain and unchanging and comprehensive and logical. If, on the other hand, the subject matter is one of becoming, then the discourse will not be as perfect as the former one. Because becoming is characterized with qualities of change and difference, the account will not be as comprehensive and logical in structure and cohesive as in the discourse about being. Thus the account Timaeus gives in this dialogue will be one as likely as possible to reality, though not a fully true account. Because the world has come to be, it has been modeled after a copy. Therefore the world is a likeness. Hence the account that will cover this process of producing likeness after a model will be a 'likely account' even though the model is an unchanging one. Being human, we have to suffice with what our subject matter enables us to talk about itself and we cannot ask for a higher degree of accuracy and consistency from an account that has likeliness as its subject matter. This is an important warning at the beginning of the discourse on how the world came to be and its sense pervades through all the minutiae of the account. For we always have to bear in mind a certain flavour of scepticism and of hypotheticism in the sense we have to make of the account of the world.

2.3 The World's Body

After the excursus on the qualities of the cosmological account, Timaeus asks and answers several questions on the world. First he asks what kind of a living thing the world was made like. He answers that it had to be made to resemble a living thing that is itself complete and cannot be a part of anything else. For according to Plato's scheme the world is to be beautiful.¹⁷ And given that 'nothing that is a likeness of anything incomplete could ever turn out beautiful...the world resembles more closely than anything else that Living Thing of which all other living things are parts both individually and by kinds' (30c). We have another instance of the form-copy relation here. The copy, which is visible, is to resemble the form, which is intelligible as much as possible. "For that Living Thing comprehends within itself all intelligible living things, just as our world is made up of us and all the other visible creatures" (30c). The Living Thing as form is νοητὸν, whereas the living thing as copy is ὄρατὸν.¹⁸ Hence the world as form contains all the other forms of living things, whereas the world as copy consists of all the particular living things.

Timaeus' next question is about the ancient question of the number of worlds. It is a debate that had concerned the Presocratic philosophers, and especially Democritus, whether there could be other worlds than the one we inhabit, either in succession or in simultaneity. Democritus idea of the infinity of

¹⁷ Why it has to be beautiful is another question but the theology of the *Timaeus* is a condition for its beauty; the god cannot make something that is not beautiful.

¹⁸*Timaeus*, 30c-d. τὰ γὰρ δὴ νοητὰ ζῶα πάντα ἐκεῖνο ἐν ἑαυτῷ περιλαβὸν ἔχει, καθάπερ ὅδε ὁ κόσμος ἡμᾶς ὅσα τε ἄλλα θρέμματα συνέστηκεν ὄρατά. τῷ γὰρ τῶν νοουμένων καλλίστῳ καὶ κατὰ πάντα τελέῳ μάλιστα αὐτὸν ὁ θεὸς ὁμοιωσαὶ βουλευθεὶς ζῶον ἐν ὄρατόν, πάνθ' ὅσα αὐτοῦ κατὰ φύσιν συγγενῆ ζῶα ἐντὸς ἔχον ἑαυτοῦ, συνέστησε.

the number of the worlds, however, is alien to Platonic principles. For, given that the world is made from a supreme complete form, the form cannot even admit yet another copy since the uniqueness that is inherent in the form is passed on to the copy as well. “So, in order that this living thing should be like the complete Living Thing in respect of uniqueness, the maker made neither two, nor yet an infinite number of worlds” (31a). This arises from the definition of the Form of the Living Thing from which this world is made as a copy. The form, as attested above, incorporates within itself all the intelligible living things, that is all other forms of living things. Thus there cannot be another form that includes all the living things, for then, a superior form that would contain these two forms would be necessary to exemplify the form that contained all the intelligible living things. Hence for the copy to imitate this specific version of uniqueness of the form, it itself also has to be unique.¹⁹

Having posited the unique status of the copy, Timaeus turns to a discussion on world’s body. The traditional opinion about the physical structure of the world is the four-element theory as proposed in its succinct form by Empedocles, that the world is made of fire, earth, water and air. The philosophers since do not object to the number or identities of these four elements though they may debate on the more ultimate particles, like Anaxagoras, or the Atomists or Diogenes of Appolonia. Plato also subscribes to the discussion in the Timaeus, followed by Aristotle and with him the theory persists well into the modern times until the periodic table of elements is suggested. Though nobody before him gave

¹⁹ There is further debate about the overall structure of the argument and the specific version of uniqueness of the world as form and copy. See Keyt (1971); Parry (1979) and (1991); Patterson (1981).

a reason for the exact number of the elements before him besides positing that they exist, Plato does so in the *Timaeus*.

Now that which comes to be must have bodily form, and be both visible and tangible, but nothing could ever become visible apart from fire, nor tangible without something solid, nor solid without earth. That is why, as he began to put the body of the universe together, the god came to make it out of fire and earth. But it isn't possible to combine two things well all by themselves, without a third; there has to be some bond between the two that unites them. Now the best bond is one that really and truly makes a unity of itself together with the things that bonded by it, and this in the nature of things is best accomplished by proportion...²⁰

Now a few points are in order here before furthering the discussion. First of all, Plato has made important determinations about the nature of Becoming. The first thing he suggests is that all Becoming must have bodily form and will contain a proportion of earth and fire in itself. This determination will be important in our discussion of the generation of the world soul, for if the soul is also generated or put together like the universe, then it must also have bodily form and must have the bodily qualities, be tangible and visible. And this conception of the soul is also not common-sensical nor is it what Plato wants to say when we recall to mind what he says about the soul in the other dialogues.

The other important thing in the passage is that once more the qualities of goodness and mathematics appear in the physical generation of the world. It is the Demiurge that puts together the world, and he does it according to the best bond. This best bond happens to be proportion, a term which Plato borrows and

²⁰ *Timaeus* 31b-c. σωματοειδές δὲ δὴ καὶ ὄρατόν ἀπτόν τε δεῖ τὸ γενόμενον εἶναι, χωρισθὲν δὲ πυρὸς οὐδὲν ἄν ποτε ὄρατόν γένοιτο, οὐδὲ ἀπτόν ἄνευ τινὸς στερεοῦ, στερεὸν δὲ οὐκ ἄνευ γῆς· ὅθεν ἐκ πυρὸς καὶ γῆς τὸ τοῦ παντὸς ἀρχόμενος συνιστάναι σῶμα ὁ θεὸς ἐποίει. δύο δὲ μόνω καλῶς συνίστασθαι τρίτου χωρὶς οὐ δυνατόν· δεσμὸν γὰρ ἐν μέσῳ δεῖ τινα ἀμφοῖν συναγωγὸν γίγνεσθαι. δεσμῶν δὲ κάλλιστος ὅς ἂν αὐτὸν καὶ τὰ συνδούμενα ὅτι μάλιστα ἐν ποιῇ, τοῦτο δὲ πέφυκεν ἀναλογία κάλλιστα ἀποτελεῖν.

introduces from the mathematical world. For Plato mathematical way of uniting the physical things is the best possible way of generating them, putting them together. And this explains why we have four and exactly four elements:

So if the body of the universe were to have come to be as a two-dimensional plane, a single middle-term would have sufficed to bind together its conjoining terms with itself. As it was, however, the universe was to be a solid, and solids are never joined together by just one middle term but always by two. Hence the god set water and air between fire and earth, and made them as proportionate to one another as was possible, so that what fire is to air, air is to water and what air is to water, water is to earth. He then bound them together and thus he constructed the visible and tangible heavens. This is the reason why these four particular constituents were used to beget the body of the world, making it a symphony of proportion. They bestowed friendship upon it, so that, having come together into a unity with itself, it could not be undone by anyone but the one who had bound it together.²¹

The proportional way of binding things is similar from mathematics. We can give examples from numbers to explain what Plato has in mind. An example of a proportion is the following: 2 is to 4 as 4 is to 8 and 4 is to 8 as 8 is to 16. This is the best way of binding 2 and 16 for Plato; because the ratios of the numbers do not change and it is as if tied twice rather than once in case we had bound them with, say 9 as the middle term equidistant from both sides. Hence this is a ‘symphony of proportion’ as Plato says, adding values of beauty besides thinking

²¹ *Timaeus*, 32a-c. εἰ μὲν οὖν ἐπίπεδον μὲν, βάθος δὲ μηδὲν ἔχον ἔδει γίγνεσθαι τὸ τοῦ παντὸς σῶμα, μία μεσότης ἂν ἐξήρκει τὰ τε μεθ’ αὐτῆς συνδεῖν καὶ ἑαυτήν, νῦν δὲ στερεοειδῆ γὰρ αὐτὸν προσῆκεν εἶναι, τὰ δὲ στερεὰ μία μὲν οὐδέποτε, δύο δὲ αἰεὶ μεσότητες συναρμόττουσιν· οὕτω δὴ πυρός τε καὶ γῆς ὕδωρ ἀέρα τε ὁ θεὸς ἐν μέσῳ θείσ, καὶ πρὸς ἄλληλα καθ’ ὅσον ἦν δυνατόν ἀνά τὸν αὐτὸν λόγον ἀπεργασάμενος, ὅτι περ πῦρ πρὸς ἀέρα, τοῦτο ἀέρα πρὸς ὕδωρ, καὶ ὅτι ἀῆρ πρὸς ὕδωρ, ὕδωρ πρὸς γῆν, συνέδησεν καὶ συνεστήσατο οὐρανὸν ὄρατὸν καὶ ἀπτόν. καὶ διὰ ταῦτα ἕκ τε δὴ τούτων τοιούτων καὶ τὸν ἀριθμὸν τεττάρων τὸ τοῦ κόσμου σῶμα ἐγεννήθη δι’ ἀναλογίας ὁμολογήσαν, φιλίαν τε ἔσχεν ἕκ τούτων, ὥστε εἰς ταῦτὸν αὐτῶ συνελθὼν ἄλυτον ὑπὸ τοῦ ἄλλου πλὴν ὑπὸ τοῦ συνδήσαντος γενέσθαι.

physical world within mathematical analogies. Hence theology, aesthetics, ethics and mathematics all contribute to Plato's physics.

After the discussion on the four elements, Plato moves on to describe the qualities that the body of the world has before he passes on to the explanation of the world soul. One of the most important attributes of the world's body is its completeness. Timaeus says at 32c, "Now each one of the four constituents was entirely used up in the process of building the world. The builder built it from all the fire, water, air, and earth there was, and left no part or power of any of them out". This point raises up two things: (1) All the matter is used up to leave nothing outside, that is, there is no matter that has not been used, that has not been subjected to the form-giving activity of the Demiurge, so that outside the body of the world there is nothing. (2) The matter that undergoes the activity of the Demiurge is already there so that the Demiurge is not a creator god in the Judaeo-Christian or Islamic sense, a god that creates being out of nonbeing. This idea was repugnant to the Greek thinking since its inception and was shown to be against logic after Parmenides, whose was endorsed by those who came after him, like Empedokles, Anaxagoras, Leukippos, Demokritos as well as Plato, himself. Being cannot come from nonbeing; hence there is no absolute creation. Leaving no part outside, the demiurge enabled his work to be 'as whole and complete as possible and made up of complete parts' (32d). He also saw to it that it 'be just one world' (33a). By leaving no material to make another world, the demiurge guarantees the uniqueness of the world that has already been proven logically above. Lastly, because things get old and diseased by the heat and cold outside, when there is nothing outside, heat or cold, then the world is guaranteed an eternal and healthy

life. Here we are reminded that the world is an animal. And the rest of the discussion of the world's body answers the question of how different the world-animal is from other animals we come upon. That is, Plato explains the differences between a particular animal and 'a living thing that is to contain within itself all other living things' (32b). First of all, because of its quality of completeness, the Demiurge gives it the shape of a sphere which contains all the other shapes. Because the sphere is uniform, its center being equidistant to all the points of its surface, this shape makes possible that the world animal be homogeneous with itself. Another principle that the Demiurge endorses appears here, "likeness is incalculably more excellent than unlikeness" (33d). Given that there is nothing outside, the world-animal does not need to see nor hear anything, nor does it eat or breathe or give out waste. The world-animal possesses all that it needs, "for the builder thought that if it were self-sufficient, it would be a better thing that if it required other things" (33d). And lastly, because it does not need to go anywhere, it does not have to perform the six of the seven motions that can be given to an object, right and left, forward and backward, up and down. The seventh motion is turning around its own axis, which also happens to be the motion most suitable to the action of understanding and intelligence (34a). Hence the world-animal differs from the individual animals in all its aspects which difference is based on the quality of completeness that belongs only to the world-animal. The introduction of the seventh motion brings us to the framing of the world with a soul on its own, which is what Timaeus discussed next.

2.4 The World Soul

The first thing Timaeus makes clear before the discussion of soul is that though its discussion happens to be after the world's body, this should not be understood to mean that it was created after the body. The narratological sequence defies the logical or the metaphysical as well as the temporal one.

We have a tendency to be casual and random in our speech, reflecting, no doubt, the whole realm of the casual and the random of which we are a part. The god, however, gave priority and seniority to the soul, both in its coming to be and in the degree of its excellence, to be body's mistress and to rule over it as its subject.²²

This is one of the points of which Plato makes Timaeus reflect on the nature of the speech he is making and pointing to its limitations and its contingent structure. As we, ourselves, are subject to agents which are casual and random and cannot always put our actions in a perfectly rational and goal-oriented scheme, our speech can but reflect this tendency in us. This point can be better appreciated when viewed in conjunction with Timaeus' discussion that we have noted above on the literalness and the truth-value of the account he is performing. For it is the nature of both ourselves and the subject matter that will determine the nature of the speech. In this case Timaeus' speech is determined through the random causation because of the same conditions he himself is under, so that he warns us against such shortcomings. But in the former discussion about the likeliness of the account, the focus was on the nature of the subject matter. That is, it was because

²² *Timaeus*, 34c. οὕτως ἐμηχανήσατο καὶ ὁ θεὸς νεωτέραν γὰρ ἂν ἄρχεσθαι πρεσβύτερον ὑπὸ νεωτέρου συνέρξας εἶασεν ἀλλὰ πως ἡμεῖς πολὺ μετέχοντες τοῦ προστυχόντος τε καὶ εἰκῆ ταύτη πη καὶ λέγομεν, ὁ δὲ καὶ γενέσει καὶ ἀρετῇ προτέραν καὶ πρεσβυτέραν ψυχὴν σώματος ὡς δεσπότην καὶ ἄρξουσιν ἀρξομένου.

of the subject matter's qualities as an inferior kind of entity, a changing, never really existing subject that would bear on the nature of the speech. Thus we have to keep in mind the two determinations which constrain the speech Timaeus makes, the one on our part, our randomness, and the other on the subject matter's part, on its ever-becoming quality.

The soul is hence prior (προτέρων) to the body temporally (πρεσβυτέρων), as Timaeus implies by the word 'in its coming to be' (γενέσει) and in its constitution (ἀρετῇ). Plato denotes the ontological excellence and priority of the soul in ethical terms and uses the concept of moral excellence for the task. Moreover, by linking the seniority of the soul with the power it should have over the body, he uses other anthropomorphic ideas to contrast the two components of the world metaphysically. "For the god would not have united them and then allow the elder to be ruled by the younger" (34c). The social division of power in terms of the age groups in society is brought in to explain the relation between the soul of the world and its body. Moreover, excellence as ἀρετή brings to mind aristocratic division of the society into those excellent by birth and those not and hence the aristocratic justification of the rule of the excellent on those who are not. In Timaeus' physics we have to think through social, political and ethical ideals of classical Athens as they are employed to understand the relation between the various entities of the world of becoming. Moreover, the social order is itself a further analogy to think the universe as a hierarchical order with all of its constituents occupying a place of each own and in a relationship of ruling and being ruled. This is one of the ways to understand the Hellenic idea of *kosmos*. The bearings of the social and political thinking on the

physical and the cosmological hence play an important role in ancient Hellenic science to which Plato's cosmological account belongs and contributes.

The composition of the soul is an important issue for Timaeus because some most crucial metaphysical forms engage in the process of making it up. The soul according to Timaeus is a mixture. It is a mixture of three mixtures indeed. One of the mixtures is the mixture of the indivisible, never-changing and the divisible Being that comes to be in the world of becoming. Another is made by the indivisible and divisible Sameness and the last is the mixture of indivisible and divisible Difference. The soul is made through the mixing of these mixtures and the subsequent manufacturing of the mixture. This mixture is divided into parts so that each part contains Being, the Same and the Different. The Different is difficult to mix because of its character. It declined to have a character even if it were the character of a mixture. Thus the god has to 'force it into conformity with the Same'. The Craftsman god then uses this mixed malleable material dividing it into seven portions which are proportionately related to each other, in the order of 1-2-3-4-9-8-27. These numbers can further be classified into two series, namely 1-2-4-8 (each member being twice the preceding one), having and 1-3-9-27 (each member being thrice the preceding one). The former series is said to have in between its members 'double intervals' and the latter having triple intervals, where in each interval are two middle terms, again constituted from the same mixed material. The first middle term is the 'harmonic' mean and the second is the 'arithmetic' mean, giving us the following series:²³ $1 - 4/3 - 3/2 - 2 - 8/3 - 3$

²³ As formulated by Donald Zeyl in his introduction to Plato (2000), n. 25.

$- 4 - 16/3 - 6 - 8$ and $1 - 3/2 - 2 - 3 - 9/2 - 6 - 9 - 27/2 - 18 - 27$. Out of the combination of these two series and the subsequent placement of the terms according to their values, we get our final series which will be used in making up the soul: $1 - 4/3 - 3/2 - 2 - 8/3 - 3 - 4 - 9/2 - 16/3 - 6 - 8 - 9 - 27/2 - 18 - 27$. Out of this length of the mixture with such intervals, the god 'slices' it into two along its long side and gives it the shape of an X, the two slices being fastened in the middle. Moreover each of the four extremes of this X, which happen to be at the ends of the two strips is extended to its opposite in the same strip so that the whole turns into a circle. This circle hence comprises an inner and an outer circle. The whole is given the motion 'which revolves in the same place without variation' (34a). The inner circle is accompanied with the motion that pertains to the Different whereas the outer circle is again given the motion of the Same. The motion of the Same will explain the constant, uniform, perfect motion of the fixed stars, whereas the motion of the Different is to account for the motion of the seven 'wandering stars', that is the planets known to the ancients, The Moon, the Sun, Mercury, Venus Mars, Juppiter and Saturn. Therefore it is divided further into 6 parts so that 7 pieces will be formed in total to correspond to the number of the planets. Though the movements are different in each of the parts of the movements of the Different, they are given proportionate measures with respect to one another by the Demiurgic god.

This process was how the soul was made. Having given the soul a 'pleasing' form, the god placed inside it the body, in fact 'all that is corporeal' ($\pi\acute{\alpha}\nu \tau\acute{o} \sigma\omega\mu\alpha\tau\omicron\iota\delta\epsilon\varsigma$) (36e). The soul is said to be present in every corner of all

that has the bodily form. By fixing the two aspects of the world ‘from center to center’, the god ensouls the body of the world. “Once the whole soul had acquired a form that pleased him, he who formed it went on to fashion inside it all that is corporeal, and, joining center to center, he fitted the two together”²⁴. However still one should not be thinking here that the ‘all that has bodily form’ was prior to the soul. Although being in the realm of the random which characterizes our speech, this time Timaeus makes a more truthful narration. The wording now makes it clear that the body is posterior to the soul. It is only once the soul was formed that the body is fitted inside it. The soul is, as aforementioned, prior to and older than the body, and now it is fitted into the body in an insoluble way: “The soul was interwoven together with the body from center on out in every direction to the outermost limit of the heavens, and covered it all around on the outside”²⁵. Hence the soul is present to the body in every section of the body. In other words, although the soul is ‘put in the body’, in fact, the body is placed in the soul, as the soul encloses the body. The body was given a spherical shape by the god, because it was the most uniform of all shapes and included in itself every other shape. So as the body is spherical, now the soul is also said to be made in circular form. There is, therefore, a correspondence of the shapes of the body and the soul. This harmony renders the enframing of the soul throughout the body all the more

²⁴ *Timaeus*, 36d-e. ἐπεὶ δὲ κατὰ νοῦν τῶ συνιστάντι πᾶσα ἡ τῆς ψυχῆς σύστασις ἐγεγένητο, μετὰ τοῦτο πᾶν τὸ σωματοειδὲς ἐντὸς αὐτῆς ἔτεκταίνετο καὶ μέσον μέση συναγαγὼν προσήρμοσεν·

²⁵ *Timaeus*, 36e. ἡ δ’ ἐκ μέσου πρὸς τὸν ἔσχατον οὐρανὸν πάντη διαπλακείσα κύκλω τε αὐτὸν ἔξωθεν περικαλύψασα.

intelligible and easy for the god. Hence the soul reaches ‘to the outermost limit of the heavens’ (36e). Asserting this Plato adheres to the age-old view of the ‘life of the stars’. The idea that stars are living bodies is a commonplace of since Archaic Greece converging to the idea that they are also divine beings. By extending the ensouling of the universe to the limit of the heavens, Plato incorporates the living character of the stars in his theory. Moreover, paying the divine proper respect also coheres with the reading of the entire speech of *Timaeus*, as a hymn to the God as it was performed in the Panathenaea festival, a religious festival for Athena. Thus Plato’s physics is not free from the religious make-up of his world-view. This aspect we must add to the influences of the various other ways (like the political or the ethical) on the thinking of the *kosmos*.

Furthering the discussion, we now pass on to an idea that was not popularly accepted, which is the life of the world, or the whole world as a living animal. After discussing the conjoining of the soul with the body, Plato makes the following remark: “And, revolving within itself, [the soul] initiated a divine beginning if unceasing, intelligent life for all time”²⁶. There were 7 kinds of motion as we have mentioned (up-down, right-left, forward-backward, and revolving around one’s own axis without changing place) and motion proper to the soul is rotation around itself. By giving the world a soul, the self-revolving motion of the soul is also incorporated in the world. This is where the idea of the life of the universe comes from. According to the ancient view, the soul is what

²⁶ *Timaeus*, 36e. αὐτὴ ἐν αὐτῇ στρεφόμενη, θεῖαν ἀρχὴν ἤρξατο ἀπαύστου καὶ ἔμφρονος βίου πρὸς τὸν σύμπαντα χρόνον. καὶ τὸ μὲν δὴ σῶμα ὄρατὸν οὐρανοῦ γέγονεν, αὐτὴ δὲ ἀόρατος μὲν, λογισμοῦ δὲ μετέχουσα καὶ

gives life to a being. Having a life and having a soul are synonymous. Soul is primarily the life principle of a thing. It is by virtue of the soul that some bodies are living things and some are not. Moreover, life is directly related to the idea of motion for living things normally change location. If they do not, they at least grow and become larger and towards the end of their life, become smaller. However, Timaeus had stated before, as we mentioned above, that the life of the world was different from any other particular living thing. That was because particular living things would perform these functions, like locomotion, growth, sense perception, etc as they were not perfect beings and thus needed other things for their life to go on at least to their inevitable death. However, none of these qualities was proper for the world as an animal, as it is the perfect living thing outside which there is nothing and whose life was eternal. Thus the only motion proper to the world was self propagated rotation around its own axis in the same place (as there was not any reason for it to ‘go’ anywhere), which happens to coincide with the motion of the soul. Thus the soul gives the world an ‘unceasing, intelligent life for all time’. It is intelligent because it is the motion proper to the soul. This motion is “that one of the seven motions which is especially associated with the understanding and intelligence”²⁷. This is how Timaeus explains the idea of the world as an eternal (ἀπαύστος) and intelligent (ἔμφορος) living being.

There is a peculiarity in the speech of Timaeus after the world is asserted to be an intelligent living being with an eternal life, which needs to be explained. Timaeus had earlier made a distinction between Being and Becoming and had

²⁷ *Timaeus*, 34a. τῶν ἑπτὰ τὴν περὶ νοῦν καὶ φρόνησιν μάλιστα οὔσαν·

some qualities accompany each. Being was ‘that which always is and has no becoming’ and becoming was ‘that which becomes but never is’. Moreover being was grasped by the rational intelligence whereas becoming was sensed through unreasoning sense-perception (27d). And whereas Being was not bodily or visible but something that is always changeless, Becoming was bodily and something visible and tangible (31c). Here Plato’s discussion of becoming was based on the qualities of the body. The bodily form was used paradigmatically to talk about becoming and the distinction with being was made with respect to body as a paradigm for becoming. Whatever body had, Being did not have and vice versa. However, as we moved into the discussion of the soul we realize that it is also explained as something that has been put together. The soul is made in a bowl where the forms of Being, the Same and the Different are mixed according to certain proportions and later worked so as to form a shape to infuse the body. Now the idea of a demiurgic god is itself being an allegory, that is, a way of thinking of god as a craftsman with his own tools and material to contrive a product according to certain principles and details of the art. It could even be held that the whole account of the cosmos as made by a demiurgic god is itself an allegorical way of cosmological thinking. That is, we best understand the structure and the evolution of the *kosmos*, only if we think of it as being framed by a demiurgic god. Even if we grant the allegorical form of the narration on the making of the soul, can we deny that the soul is a becoming at all? Can we claim that the soul is an unchanging entity that can be grasped by understanding? Is it possible to think of the soul as a uniform entity that is a peculiar species of its own or is it analyzable into further entities like the forms of Being, Sameness and

Difference? Even if we concede the allegorical structure of the discussion of the soul, we cannot place the soul in the realm of being as easily as we can place it in the realm of becoming. The soul is made like the rest of the universe by a demiurgic god who put certain things together to create it, so that it cannot be eternal in the proper sense of the term. It is, in the least sense, dependent on other types of being, the forms mentioned above, which are not further dependent on any other being. Hence the soul is something that is made, a part of the becoming realm. And there's no reason to doubt the identity of the way Timaeus speaks about the way the world's body was put together and the way the world's soul was made. In both cases, there are certain pre-existing materials to be used up in the process. In both cases there is a demiurgic god that makes use of the materials and employs his art into them. In both cases the product is not a uniform, homogeneous material that contains a single material. In both cases, certain motions are attributed to each, the six motions to the body and the rotary motion to the soul. In both cases the product is said to come to be (γεγονην). Thus it is part and parcel of the world of becoming.

Given this, we have to explain Plato's next remark after the uniting of the world soul with world's body: "Now while the body of the heavens had come to be as a visible thing, the soul was invisible. But even so, because it shares in reason and harmony, the soul came to be as the most excellent of all things begotten by him who is himself most excellent of all that is intelligible and

eternal”²⁸. Now earlier *Timaeus* had made it clear that Becoming is necessarily visible and tangible: “Now that which comes to be must have bodily form, and be both visible and tangible” (31b). But we now know that the soul is also something ‘that which comes to be’. However it is neither visible nor tangible and *Timaeus* is perfectly aware of this. How are we to confront this contradiction? We made it clear that even if we grant the allegorical status of the account on the creation of the soul and disclaim that such a production process as told in the account really took place, we cannot deny that it came to be. And if it came to be, it has to be tangible and eternal. But the soul is clearly said to be invisible though also γεγονήν. This problematizes the place of the soul in the scheme of things and the introduction of the soul into the account on the creation and make-up of the world. The problem is basically how to explain the creation of something not bodily when our paradigmatic way of speaking of all that comes to be, that is, all becoming as such, is primarily through the bodily form. And given all this, the problem was not a major issue for those Presocratic philosophers, like Anaximenes, Herakleitos, Empedokles or Diogenes of Apolonia nor for Demokritos, who all, one way or another, thought about the soul as a bodily entity itself.²⁹ Thus an account has to be given about the general place of the soul in the natural philosophy of Plato and why the soul is spoken in terms of Becoming in the *Timaeus*, and why the Presocratic tradition is not followed when such a move would not give rise to such inconsistencies in the account.

²⁸ *Timaeus*, 36e-37a. καὶ τὸ μὲν δὴ σῶμα ὄρατὸν οὐρανοῦ γέγονεν, αὐτὴ δὲ ἀόρατος μὲν, λογισμοῦ δὲ μετέχουσα καὶ ἁρμονίας ψυχῆ, τῶν νοητῶν αἰεὶ τε ὄντων ὑπὸ τοῦ ἀρίστου ἀρίστη γενομένη τῶν γεννηθέντων.

²⁹ This will be explained below.

There is, in addition to these cases, an epistemological factor to the account on the soul. The soul is said to be made up of the Same and the Different. And when the soul encounters things, be it divisible or indivisible, the soul reacts to the situation, setting itself in motion, gets ‘stirred through its whole self’ (37a). This is the process of cognition. The soul’s encounter with the object of cognition and the subsequent activity of the soul enables it to cognize the object, so as to place it either in the realm of being or in that of becoming. And the constituents of the soul in this regard are fundamental to the process. “It then declares what exactly that thing is the same as, or what it is different from, and in what respect and in what manner, as well as when, it turns out that they are the same or different and are characterized as such”.³⁰ Recognizing whether a particular thing falls into the category of the same or the different, the soul can speak about the nature of the thing and the particular changing qualities that belongs to it as well. And the encounter can be either with a changing object or an unchanging one: “This applies both to the things that come to be , and those that are always changeless” (37b). The circle of the Different and the Same also characterizes the status of the narration that is used to express the knowledge about the object. Hence, if the object belongs to the realm of Becoming, the circle of the Different expresses the account about the object, from where we obtain ‘firm and true opinions and convictions’ (37b-c). If the object is rather an object of reasoning,

³⁰ *Timaeus*, 37a-b. λέγει κινουμένη διὰ πάσης ἑαυτῆς ὅτω τ’ ἄν τι ταῦτόν ἢ καὶ ὅτου ἄν ἕτερον, πρὸς ὅτι τε μάλιστα καὶ ὅπη καὶ ὅπως καὶ ὅποτε συμβαίνει κατὰ τὰ γιγνόμενά τε πρὸς ἕκαστον ἕκαστα εἶναι καὶ πάσχειν καὶ πρὸς τὰ κατὰ ταῦτὰ ἔχοντα αἰεὶ.

then the circle of the Same is activated from which we get ‘understanding and knowledge’.³¹

Plato ends the discussion about the epistemological functions of the soul by disclaiming any other way of situating knowledge and understanding: “And if anyone should ever call that in which these two [knowledge and understanding] arise not in soul, but something else, what he says will be anything but true” (37c). This remark is made in order to reinforce the cognitive functions of the soul and to object to any account that would place knowledge or understanding in the senses or that would reject altogether knowledge or the understanding. The former view brings to mind the atomists’ view on the origin of knowledge in the senses; the latter view is basically that of the Sophists. Plato was in opposition to both of these groups, rejecting the materialist explanation of the former who would reject any extra-materialist account for the soul and hence for knowledge and understanding. And he would reject the Sophists’ relativisation, hence trivialization, of knowledge. Plato basically wanted to show the possibility of knowledge by making a distinction between perception and knowledge and demarcating the objects that would be grasped by each. This distinction was according to Plato, not followed either by the atomists or the sophists, which was

³¹ *Timaeus*, 37c. λόγος δὲ ὁ κατὰ ταῦτόν ἀληθῆς γιγνόμενος περὶ τε θάτερον ὄν καὶ περὶ τὸ ταῦτόν, ἐν τῷ κινουμένῳ ὑφ’ αὐτοῦ φερόμενος ἀνευ φθόγγου καὶ ἤχης, ὅταν μὲν περὶ τὸ αἰσθητὸν γίγνηται καὶ ὁ τοῦ θατέρου κύκλος ὀρθὸς ἴων εἰς πᾶσαν αὐτοῦ τὴν ψυχὴν διαγγείλη, δόξαι καὶ πίστεις γίνονται βέβαιοι καὶ ἀληθεῖς, ὅταν δὲ αὐτὸ περὶ τὸ λογιστικὸν ἢ καὶ ὁ τοῦ ταύτου κύκλος εὐτροχος ὦν αὐτὰ μηνύσῃ, νοῦς ἐπιστήμη τε ἐξ ἀνάγκης ἀποτελεῖται· τούτω δὲ ἐν ᾧ τῶν ὄντων ἐγγίγνεσθον, ἂν ποτέ τις αὐτὸ ἄλλο πλὴν ψυχὴν εἴπη, πᾶν μᾶλλον ἢ τὰληθῆς εἶρη.

the reason of their failures. This was also the reason why the soul had such a central place in the Platonic account of the world and its constituents.

The account of the soul is based on an ancient conception of ‘like knows like’ which is endorsed by the Presocratic philosophers and followed in the classical philosophies of Plato and Aristotle. According to this principle, knowing is a process of assimilation to the object known. Hence in the account of the soul, because the soul is made up of both the Same and the Different, it has the power to cognize any object, be it an object of reasoning or one of sense perception. The former does not change and so is grasped by the circle of the Same to produce understanding. The latter is a part of the realm of Becoming, which is characterized by continuous change; hence it is grasped by the circle of the Different to produce a true conviction. Hence the soul is assimilated to the object of cognition by virtue of its corresponding constituent engaging in the interaction with the object. Plato’s entire account in the *Timaeus* can be said to belong to this latter category. Timaeus disclaims any recourse to ultimate truth about the discourse he is performing and claims that it would suffice if he can make a ‘likely story’ or a ‘likely account’ out of it. For the object of the discourse, the perceptible world of Becoming, which is under continuous change, defies any rational and perfect account concerning itself. However Timaeus’ account is not just any account but as he claims later ‘a best account of becoming second to none’. It is such an account because it is a ‘true conviction’ about an object of becoming. This is not supposed to mean that no element of the world of Being is used. For in the beginning Timaeus had made a priori distinctions between Being and Becoming, and not all of the elements in the account are perceptible, like

God, proportion and the soul itself. However a 'true account' about Becoming comprises both perception and knowledge, thus the entirety of the soul, because it's only by virtue of the circle of the Same that we can make sense of the perception that is given to us by the senses. In this sense a 'true conviction' always relies on changeless objects of reasoning, as exemplified in the account of Timaeus of the world of Becoming.

We have to point, lastly, to the intermediate status of the soul within the scheme of things. When Timaeus embarked on the speech on the generation of the soul after that of the body, he had made it clear that we should not understand from this sequence that body was superior to the soul. This impression rose rather, as we discussed above, from the random structure of our speech, we being within the realm of the random causality. Soul was superior than and senior to the body in that it was a more excellent product of the god, in fact the most excellent of anything that was ever brought forward. So soul had an important place with respect to the body. Now we have mentioned various entities that make up the universe, according to Plato. We have the demiurgic god, who worked on the disorderly moving material according to the ideas in his mind. These three are the *ur*-entities of the universe, out of which we have whatever the world is to us. Thus the world ultimately consisted of a pre-existing chaos of Becoming that continually changed and the Forms that never changed from which God contrived the world as it is present to us. The creation process is thus an interaction between the realms of Being and Becoming. And the world is made of the body and the soul, of which the latter is more excellent and gives a 'pleasing' form to the former. Moreover the soul is made up of Being, the Same and the Different.

Hence the soul possesses both qualities shared by Being and those by Becoming. It is only by virtue of this contradictory situation within the soul that we can speak about soul's cognition process of things belonging to the realm of Being or to that of Becoming. If the soul did not possess both of these, we would never have both perception and knowledge. This points to the intermediate status of the soul with respect to the realms of Being and of Becoming. The soul, because it is created by the god at some point like the body of the world, belongs to those things that come to be, that is Becoming. Moreover, because the Different is one of its major constituents, it can interact with the things in the world of Becoming and hence is in continuous motion with respect to every object of Becoming it has to interact with and perceive and make true convictions. On the other hand, the Same is the other constituent of the soul, which means that the soul can be said to relate to the things that never change in the realm of Being. This provides a place for the soul in that realm, for if it did not have any such place, it would not be able to bring forth knowledge and understanding and discourse about the Being in a rational account. Thus we have to conclude the intermediary status of the soul. Plato's world is basically divided into the realm of Becoming and the realm of Being and most things fall into either category. However the Soul is among few things that have a share in both of the worlds.³² This makes the account of the soul in the cosmogonical account of the *Timaeus* much more important than it first seems.

³² More about this issue further below.

2.5 Finishing up the Generation of the World

Timaeus' next move is the emergence of time. Two factors are important in this respect: (1) The model after which the world is made is an eternal one and (2) The god wanted to make the image as similar to the model as possible. We had talked about why the god wanted so; he was good and had no envy so he wanted all to be as similar to him as possible. But what's more similar than a most perfect form of the Living Being? So the god wants the copy to be like the model. However one cannot attribute eternity, a quality of the model to the copy as "...it isn't possible to bestow eternity fully upon anything that is begotten" (37d). Hence the model cannot be eternal but he made 'a moving image of eternity'. Though eternity is indivisible and constant, this model is divisible into numbers and moving according to them. This is how time is initiated by the demiurge. Hence the world is not eternal but 'sempiternal' (διδαιωνία). While the model exist 'for all eternity', the copy maintains 'for all time'.

God's introduction of time is for the sake of the 'wanderers' (πλανητά). Plato holds that God set each of the planet (Mercury, Venus, Mars, Jupiter and Saturn, plus the Sun and the Moon) into one orbit attaching each a circle in the realm of the Different. The planets are also alive as they have a soul and their irregular motion is due to the circle of the Different on which they move. The fixed stars, on the other hand, are placed on the circle of the Same, which dominated the circle of the Different. We cannot dwell further on the various relations between the circles of the heavenly bodies but we can observe that Plato's description of the astronomical matters indicate that he was highly

informed about the astronomical developments of his time, as many commentators have pointed out.³³

Having completed the structuring of the heavens the last thing before the demiurgic god to accomplish is to populate the world he made with living bodies. The reason for this is so that it could resemble the model Living Thing as much as possible, which model contains every kind of living thing inside itself: “And so he determined that the Living Thing he was making should possess the same kinds and numbers of living things as those which, according to the discernment of the Intellect, are contained within the real Living Thing”.³⁴ The four kinds of living things are the ‘heavenly race of gods’, the kind that moves in air, the kind moving under water and the kind going on foot on land. The demiurgic god first created the lesser gods, the traditional Hellenic deities, like Zeus, Hera, Okeanos, Thetys, Cronus, etc, ‘mostly out of fire, to be the brightest and fairest to the eye’ (40a). However he handed over the creation of the other living things to these lesser gods so that the product would not be as perfect and eternity as would threaten the scheme of things in the universe. “But if these creatures [the other three kinds] came to be and came to share in life by my hand, they would rival the gods. It is you [the lesser gods], then, who must turn yourselves to the task of fashioning these living things, as your nature allows. This will assure their mortality, and this

³³ Vlastos (2005), p. 51.

³⁴ *Timaeus*, 39e. ἤπερ οὖν νοῦς ἐνούσας ἰδέας τῶ ὅ ἔστιν ζῶον, οἰαί τε ἔνεισι καὶ ὅσαι, καθορᾶ, τοιαύτας καὶ τοσαύτας διενόηθη δεῖν καὶ τόδε σχεῖν.

whole universe will really be a completed whole” (41c).³⁵ The lesser gods are to create the other living bodies from the remnants of the ingredients for the soul that are left in the mixing bowl of the demiurgic god, though this time they are less pure than they were in the case of the generation of the World-Soul. These remaining soul ingredients, the gods joined with portions of fire, earth, water and air with not insoluble bonds to make up the human body. This make-up enabled the humans to have the capacities of knowledge, sense perception, love, pleasure and pain, and fear of the gods, as well as, eyes, sight, hearing, speech and music.

Timaeus ends the discussion on the generation of the world and the humans by the god with an important remark on causality. For Timaeus, there are two sides to the account of the generation of the world, because there are two kinds of causality. After Timaeus talks about how vision takes place in mirrors and the eye through mechanistic terms, he reflects on the explanation models he has used up to now:

Now all of the above are among the auxiliary causes employed in the service of the god as he does his utmost to bring to completion the character of what is most excellent. But because they make things cold or hot, compact or disperse them, and produce all sorts of similar effects, most people regard them not as auxiliary causes, but as the actual causes of all things. Things like these, however, are totally incapable of possessing any reason or understanding about anything. We must pronounce the soul to be the only thing there is that properly possesses understanding. The soul is an invisible thing, whereas fire, water, earth and air have all come to be visible bodies. So anyone who is a lover of understanding and knowledge must of necessity pursue as primary causes those that belong to intelligent nature, and as secondary all those belonging to things that are moved by others and that set still other in motion by necessity. We too, surely, must do likewise: we must describe both types of causes, distinguishing those which possess understanding and thus fashion what is

³⁵ *Timaeus*, 41c. δι' ἐμοῦ δὲ ταῦτα γινόμενα καὶ βίου μετασχόντα θεοῖς ἰσάζοιτ' ἄν' ἵνα οὖν θνητά τε ἢ τό τε πᾶν τόδε ὄντως ἅπαν ἦ, τρέπεσθε κατὰ φύσιν ὑμεῖς ἐπὶ τὴν τῶν ζώων δημιουργίαν, μιμούμενοι τὴν ἐμὴν δύναμιν περὶ τὴν ὑμετέραν γένεσιν.

beautiful and good, from those which, when deserted by intelligence, produce only haphazard and disorderly effects every time.³⁶

The causality that has been applied in the account so far is the causality of the Intellect. God's bringing about the world is through the ideas of what is best for the world to be. The world emerged out of the goodness of god and its details are arranged so as to produce the best result in view of some unchanging, eternal and beautiful model. The causality of necessity, on the other hand, can only be fruitful and productive once it is yoked under the guidance of the causality of the Intellect. Here Plato is charging the natural philosophers who explain the world with any or all of the four elements. In particular, the atomists' view is attacked who dispense with any recourse to an Intellect in their cosmological account and claim the ultimate causality of chance to bring about the world as it is. As we mentioned, the atomists explain even the soul by reducing it to ultimately material soul-atoms. This means that it is also again random chance that brings forth an intelligible principle like soul. However as we saw, soul is made up of numerical proportions and forms of the Same and the Different together with Being. Thus, given the atomists' explanation of soul, the soul cannot provide any in-forming account it performs with respect to matter. It cannot regulate the unformed things

³⁶ *Timaeus*, 46c-e. ταῦτ' οὖν πάντα ἔστιν τῶν συναιτίων οἷς θεὸς ὑπηρετοῦσιν χρῆται τὴν τοῦ ἀρίστου κατὰ τὸ δυνατόν ἰδέαν ἀποτελεῶν· δοξάζεται δὲ ὑπὸ τῶν πλείστων οὐ συναίτια ἀλλὰ αἴτια εἶναι τῶν πάντων, ψύχοντα καὶ θερμαίνοντα πηγνύντα τε καὶ διαχέοντα καὶ ὅσα τοιαῦτα ἀπεργαζόμενα. λόγον δὲ οὐδένα οὐδὲ νοῦν εἰς οὐδὲν δυνατὰ ἔχειν ἔστιν. τῶν γὰρ ὄντων ὡς νοῦν μόνω κτᾶσθαι προσήκει, λεκτέον ψυχῆν τοῦτο δὲ ἄορατον, πῦρ δὲ καὶ ὕδωρ καὶ γῆ καὶ ἀήρ σώματα πάντα ὀρατὰ γέγονεν τὸν δὲ νοῦ καὶ ἐπιστήμης ἐραστὴν ἀνάγκη τὰς τῆς ἔμφρονος φύσεως αἰτίας πρώτας μεταδιώκειν, ὅσαι δὲ ὑπὸ ἄλλων μὲν κινουμένων, ἕτερα δὲ κατὰ ἀνάγκης κινουμένων γίνονται, δευτέρας· ποιητέον δὲ κατὰ ταῦτα καὶ ἡμῖν· λεκτέα μὲν ἀμφότερα τὰ τῶν αἰτιῶν γένη, χωρὶς δὲ ὅσαι μετὰ νοῦ καλῶν καὶ ἀγαθῶν δημιουργοὶ καὶ ὅσαι μονωθεῖσαι φρονήσεως τὸ τυχὸν ἄτακτον ἐκάστοτε ἐξεργάζονται.

if it were one of those things. And it would not possess intelligence if it did not partake of the form of the Same. Plato remarks to the contrary when he disallows any search for intelligence apart from the soul. Hence if we are to explain things on rational principles, the four material elements are not sufficient. This was the mistake of the Presocratic philosophers, according to Plato, who tried to explain the emergence of order from irrational principles. Thus up to now Timaeus gave the emergence of the world from intelligible qualities. However, this is only one side of the story, for intelligent causality is not solely enough of an explanation either. Hence, another account, this time from the viewpoint of ‘blind’ necessity has to be recited as well. And Timaeus’ next narration will be this story.

2.6 The Causality of Necessity

Timaeus begins the second discourse by introducing a third kind of entity as opposed to the two which were sufficient for the first discourse. This is the so-called ‘receptacle of all becoming – its wetnurse, as it were’.³⁷ The receptacle is supposed to give way to Becoming. It’s not what Becoming is made up of, but it is where Becoming takes place. It’s compared to some piece of gold out of which one can make many things. The things that are made are different forms of the same gold. “These are the things that make it appear different at different times. The things that enter and leave it are imitations of those things that always are, imprinted after their likeness in a marvelous way that is hard to describe”.³⁸ So the

³⁷ *Timaeus*, 49a. πάσης εἶναι γενέσεως ὑποδοχὴν αὐτὴν οἶον τιθήνην.

³⁸ *Timaeus*, 50c. ἔκμαγεῖον γὰρ φύσει παντὶ κείται, κινούμενον τε καὶ διασχηματιζόμενον ὑπὸ τῶν εἰσιόντων, φαίνεται δὲ δι’ ἐκεῖνα ἄλλοτε ἄλλοῖοντὰ δὲ εἰσιόντα καὶ ἐξιόντα τῶν

receptacle receives the forms and makes possible the instantiations of those forms, though in an imperfect way. Moreover it does not take the qualities of the things that enter it; rather it can receive these impressions without changing its nature at all. Thus we have three things in total in this section: ‘that which comes to be (τὸ γιγνόμενον), that in which it comes to be (τὸ ἐν ᾧ γίγνεται), and that after which the thing coming to be is modeled and which is the source of its coming to be (τὸ δ’ ὅθεν ἀφομοιούμενον φύεται τὸ γιγνόμενον)’ (51d).

The four kinds of bodies take place in the receptacle. Before the demiurgic god ordered the world, the receptacle was shaking these bodies like a sieve so that they were collected in different sections of space, having gained some of the characteristics, or traces, of what they are now. It is only after this initial disorderly movement of the receptacle that god gives all the bodies their forms. The bodies receive their forms by virtue of their arrangement of the underlying triangles. Because bodies necessarily have depth, they have surfaces and all surfaces can be divided into triangle. And for Timaeus, the two basic triangles are the isosceles right triangle and the scalene right triangle, which has its angles as $30^\circ - 60^\circ - 90^\circ$. The former can make up squares as well as cubes, hence it is suitable for constituting earth. Fire, water and air are formed by the coming together of the scalene triangle so as to make tetrahedrons (fire), octahedrons (air), and icosahedrons (water). Hence all are transformable into one another except earth. Moreover, the mathematical basis serves also to characterize the physical qualities of the bodies. For example, fire is sharp and the tetrahedron is the

ὄντων ἀεὶ μιμήματα, τυπωθέντα ἀπ’ αὐτῶν τρόπον τινὰ δύσφραστον καὶ θαυμαστόν, ὃν εἰς αὐθις μέτιμεν.

sharpest shape and cube is the least movable, suitable for earth as the most stable element. Motion among the elements is due to the non-uniformity of the world. As there is a difference, an inequality, between things, one thing becomes the mover, the other moved. Rest would occur if everything were uniform, but this is not the case. Moreover, it will never be the case because there will never be ultimate separation of the elements. For the circumference of the universe does not let any empty space to be left once the world took a round shape which has ‘a natural tendency to gather upon itself’ (58a). Timaeus continues with the various forms the four elements have and how they dissolve and intermingle with one another and lists the qualities that pertain to the elements concluding with a discussion of human sensation of various feelings and sensual data and qualities of bodies. The issue of perception, because it has two aspects to it, the bodies and the perceiving subject, brings the speech of Timaeus to its last section, where gods create humans, which happen to be another confrontation of necessary and divine causality.

2.7 The Human as a Product of Necessary and Divine Causality

In the previous discussion of perception under the causality of necessity, Timaeus does not make much use of the soul but only supposes it for the sake of discussion: “Let’s begin by taking for granted for now the existence of body and soul” (61d). But now in the last section, the soul, its constituent parts, its relation with the body, the various organs of the body are discussed. The gods create the humans by imitating the demiurgic god. Just as the demiurge wove the immortal soul in the round body of the world, the lesser gods put the immortal part of the

soul in the head. But unlike the demiurge, they also had to give the rest of the body in the head's service. And the mortal kind of soul, they placed in the body. In the mortal kind were situated all kinds of 'disturbances' including pleasure, pain, fear, boldness, anger and expectation as well as 'unreasoning sense perception' and lust (69d). The ambitious part of the soul being superior to the appetitive part was put in the chest to be differentiated from the stomach by the midriff. As E. R. Dodds points, there is a parallel between the relation of divine causality to the causality of necessity and the relation of the immortal to the mortal parts of the soul: "The inferior soul seems to stand to the good one in the same relation as Necessity to Mind in the *Timaeus* myth: it is a sort of untrustworthy junior partner, liable to fits of behavior, in which it produces; crazy and disorderly movements' ".³⁹ Marrow is essentially important for life because it is where the soul is attached to the body. "For life's chains, as long as the soul remains bound to the body, are bound within the marrow, giving roots for the mortal race" (73b).⁴⁰ The marrow is itself made up of the very primary triangles that make up the elementary four bodies. Hence Timaeus calls it 'a universal seed contrived for every mortal kind' (73c).⁴¹ The various types of soul are placed within the marrow which is further divided into numbers and shapes that the soul is supposed to have. This 'field', as Timaeus calls it, is elaborated to 'receive the divine seed' so as to make the brain, where our immortal and divine part of the

³⁹ Dodds (1973), p.116.

⁴⁰ *Timaeus*, 73b. οἱ γὰρ τοῦ βίου δεσμοί, τῆς ψυχῆς τῷ σώματι συνδουμένης, ἐν τούτῳ διαδούμενοι κατερρίζουν τὸ θνητὸν γένος.

⁴¹ *Timaeus*, 73c. ἀποκρίνων, μίγνυς δὲ ἀλλήλοις σύμμετρα, πανσπερμίαν παντὶ θνητῷ γένει μηχανώμενος...

soul is fixed.⁴² The body is framed around this marrow beginning with the bone. This is how the human body was created by the lesser gods. However we must still accept this account as a likely one. Before beginning to discuss matters about the body and soul, Timaeus warns us about the issue one more time:

So, as for our questions concerning the soul – to what extent it is mortal and to what extent divine; where its parts are situated, with what organs they are associated, and why they are situated apart from one other – that the truth has been told is something we could affirm only if we had divine confirmation. But our account is surely at least a ‘likely’ one is a claim we must risk, both now and as we proceed to examine the matter more closely. Let that be our claim, then.⁴³

Timaeus ends his likely account by discussing the organs of the body, the various diseases of the soul and the body and he explains the emergence of various life-forms including plants, animals and women in a moralizing manner. As J. B. Skemp realizes, only plant and men are really created by the gods, whereas woman and animals are next forms of life for men who lead degenerate lives.⁴⁴ Plato also discourses on how to keep the health of the body and the soul and to reach happiness by attuning one’s soul to the soul of the universe. But what we will be examining is the soul and its explanatory power in the universe. Hence we cannot dwell on most of the multifarious topics discussed in the cosmological account of the *Timaeus*.

⁴² *Timaeus*, 73c-d. καὶ τὴν μὲν τὸ θεῖον σπέρμα οἶον ἄρουραν μέλλουσαν ἕξειν ἐν αὐτῇ περιφερῇ πανταχῆ πλάσας ἐπωνόμασεν τοῦ μυελουταύτην τὴν μοῖραν ἐγκέφαλον...

⁴³ *Timaeus*, 72d. τὰ μὲν οὖν περὶ ψυχῆς, ὅσον θνητὸν ἔχει καὶ ὅσον θεῖον, καὶ ὅπη καὶ μεθ’ ὧν καὶ δι’ ἃ χωρὶς ὠκίσθη, τὸ μὲν ἀληθές ὡς εἴρηται, θεοῦ συμφήσαντος τότε ἂν οὕτως μόνως διισχυριζοίμεθα· τὸ γὰρ μὴν εἰκὸς ἡμῖν εἰρησθαι, καὶ νῦν καὶ ἔτι μᾶλλον ἀνασκοποῦσι διακινδυνευτέον τὸ φάναι καὶ πεφάσθω.

⁴⁴ Skemp (1947), p.54.

CHAPTER III

EARLY HELLENIC CONCEPT OF THE *PSYKHE*

Before Plato wrote the *Timaeus*, there was already a continuous discussion on the soul on the part of the early Hellenic thinking. Apart from that, Plato's discussion of the soul expands beyond the confines of the *Timaeus* and spreads to his other dialogues, like the *Phaedo*, the *Phaedrus*, the *Philebus* and the *Laws*. Thus in order to understand Plato's discussion of the World Soul, we have to first inquire into the Pre-Platonic use of the concept of the soul and whether there is any correspondence therein to an idea of the World Soul as in the *Timaeus*. And after having done that we will have to see whether the discussions on the concept of the soul in other Platonic texts shed any light on the notion of the World Soul in the *Timaeus*.

As we have maintained before, the *Timaeus* belongs to and can be deemed as the last instance of the tradition of cosmology that has been initiated by the Presocratic philosophers. Presocratics however also had a cosmogonic view which they derived from the texts of mythology available at their times, like Homer's *Iliad* and the *Odyssey* and Hesiod's *Theogony* and *Works and Days*. The *Timaeus* exemplifies Plato's most elaborate confrontation with Presocratic thinking and contains his most important objections to and dialogues with these 'physiologist'.

But Plato was also well-versed with poetical texts and had theological concerns as when he tried to ban the poets from his ideal city in the *Republic*. Plato criticizes Homer and Hesiod in that they do not show the due respect to deities when they depict them in anthropomorphic forms with all of their flaws and drawbacks and vices. And given that the setting of the *Timaeus* is the Panathenaea festival, the festival for Athena, and that the speech of Timaeus is given as an encomium to the goddess, the theological import of the work is clear. The prominent place given in the cosmogonic speech of Timaeus to the demiurgic god is as important in pointing to what extent Plato takes theology and theological thinking seriously. Hence if we want to study the concept of the World Soul in the *Timaeus*, we have to examine the concept of the soul both in Homer's epic poetry and in the Presocratic philosophers as well. My exposition of the early Hellenic view of the soul will be largely based on the somewhat dated but still classical article written on the subject by D.J. Furley, and the survey Aristotle gives at the beginning of his *De anima*.⁴⁵

3.1 Homer

There is no concept of the soul as we know it or as Plato knows it in the Homeric poems of the 8th century. The concept of the soul is a unified one in modern and classical times. It is a site of thinking, of deliberating, of consciousness as well as of perception, of pleasure and pain and the senses. It also contains the faculty of conscience and is the site of ethical thinking and action.

⁴⁵ Furley (1956), pp. 1-18.

Now most of these are what Plato has in mind when he thinks about the soul. However these were all new developments and Plato elaborates on an earlier concept of the soul. As many other philosophical terms, Plato had to contrive his terminology on the soul from concepts of everyday life and from earlier thinking on the soul. Now in Homer there is no concept of the soul that corresponds to what Plato means by it and the many functions of the soul are expressed by various words, like *psyche* (ψυχή), *thymos* (θυμός), *noos/nous* (νοός/νούς), *phren* (φρήν), *kardia* (καρδία), *ker* (κῆρ), *etor* (ετώρ).⁴⁶ Moreover because there is no unifying concept of the soul as we have it, and as our unified concept is juxtaposed against the concept of the body, there is no soul-body distinction in Homer, as Bruno Snell in his classic study maintains.⁴⁷ Snell maintains that there was no unified concept of body nor one of soul in Homer and hence the psychological functions of humans are never conceived apart from the bodily functions. Some of these words that refer to psychological functions are organs and none of them work in complete abstraction from bodily organs. *kardia*, *ker* and *etor* are all refer to heart as an organ, whereas *phren* refers to tissues in the body though without clear reference to how much of those tissues, but diaphragm is a good choice as referent. *thumos* is a site of feeling and anger and it motivates people into action, ‘a place of emotion and inner debate’.⁴⁸ This part of the Homeric soul finds its later development in the tripartite division of the soul by Plato. For one of the constituents of the human soul is the spirited part (τὸ τῶν

⁴⁶ Furley (1956), p. 2.

⁴⁷ Snell (1982), p. 16.

⁴⁸ Padel (1992), pp. 28-29.

ἐπιθυμιῶν κατέχοι γένος), which term preserves the concept of *thumos* within itself. Furley maintains that “[t]here is an important distinction between ‘*kardia*’ and ‘*phren*’ on the one hand and ‘*thymos*’ and ‘*psyche*’ on the other: the former pair may refer to organs of the body without reference to the emotional, mental or vital activities which they often imply, whereas the latter pair, although they are usually more like concrete than abstract nouns, never refer to purely physical activities of things”.⁴⁹ Thus there is a hint to disembody which terms of the psychological thinking of Homer for the Presocratics and for Plato. But the fact is that Homer’s world is much different than Plato’s. It is possible to question of the *psykhe* and the *thumos* are one thing in Homer however their functions in the body are different. Hence they are not to be identified, as Onion shows.⁵⁰ Though *nous* is said to be derived from a verb meaning ‘understanding’, ‘appreciation’, and ‘thinking’, it is less substantial than the organs and closest to be thought without the bodily activities.⁵¹ The activities of the *psykhe*, the *thymos* and the *noos* all take place within the chest. Hence the brain did not evolve into the organ of thinking which occupies a center theme in the account Timaeus gives of how the traditional gods framed the human head, which is where they wove the *nous* into the human body and for the use of which the whole other bodily parts were made.

Lastly we have to maintain that the Homeric *psykhe* does not have the full connotations of life which it comes to have in the subsequent emergence of philosophical thinking and in Plato. However the traces for this latter conviction

⁴⁹ Furley (1956), pp. 2-3.

⁵⁰ Onion (1951), pp. 94-95.

⁵¹ Furley (1956), p. 3.

are also found in Homer. The souls of the Homeric heroes go to Hades, to the deity of the underworld, and the *psykhai* are what distinguish the living from the dead body. *Psykhai* are what the fight between two warriors is fought for and they fly away from a wound on the body. But in Homeric poems, the afterlife is not depicted in a pleasant way and Akhilleus in Hades famously would wishes to spend years of slavery on Earth rather than one day in Hades. In this sense, the *psykhe* is also what takes the role of the individuating principle between different persons. We cannot distinguish between people on account of their hearts nor on account of the spirited part in them. Even *nous* is a universal immortal category that is shared by all rational humans. However, because the *psykhe* as a total is what survives after death, it is what distinguishes Plato from Socrates and from any other person. Plato emphasizes this point further by assigning each soul to some star in the heavens, the souls going back to their felicitous ‘origins’ after the union with the body is broken, i.e. at death. The *psykhe* in Homer’s epics is a ‘shade or ghost which survives after a man’s death’.⁵² But given its characteristics of distinguishing between life and death and its survival of some kind, it was the concept to be embellished with the concept of eternity as philosophical thinking developed. Onians remarks that “[t]he ψυχή gradually ceases to be merely the life or life-soul which it was in Homer and Hesiod, etc., and begins to be conceived of and spoken of as concerned in perception, thought, and feeling, which had formerly passed as the work of θυμός, φρένες, and, κῆρ in the chest. In it as a

⁵² Furley (1956), p. 3.

single entity, 'life' and consciousness, which had formerly been divided, centered in head and chest respectively in ψυχή and θυμός, are now united".⁵³

Opposed to Onians' view however is Jan Bremmer's, who in his anthropological study of the concept compares the Homeric concept of the soul with soul conceptions in other pre-literate societies. Bremmer understands the Homeric soul with concepts like the free soul and the body soul, the former for thinking the soul apart from the body, the latter for thinking it with the body. We cannot diverge into the intricacies of the anthropological conceptions here but we will suffice with the conviction that these conceptions point to the ambivalent nature of the pre-philosophical conception of the soul in Homeric epics. Against Onians, Bremmer says, "[i]n Homer the *psyche* does not have any physical and psychological connections. It is not the 'life-stuff' or 'breath of life,' descriptions which in any case are ill-defined by those who use them [including Onians]. We can say only that when the *psyche* has left the body forever, it dies".⁵⁴ We thus have originally this ambivalent and problematic concept of the soul in Homer which will come to expand its connotative field up to Plato's time. It is thus only at the end of the 5th century that the soul has its full-blown epistemological, personal, emotional and theological connotations. Bremmer's observations are telling in this sense: "It is only in the fifth-century Athens that we start to find the idea that the citizen can determine his own, independent course of action... And it seems that the systematic reflection on the soul started precisely at the end of that century because *psyche* had become a center of consciousness and for that reason

⁵³ Onians (1951), p. 116.

⁵⁴ Bremmer (1983), p. 16.

would have provoked a much stronger interest than before”.⁵⁵ And in order to trace this development of the soul as the seat of consciousness, we now have to look at the Presocratic idea which will show us how the concept arises from this Homeric offshoot to emerge as a unifying concept as claimed above to be available for Plato.

3.2 The Presocratics

In order to see how the Presocratics conceived of the soul and how they might have introduced ideas that are later to be followed by Plato, we will have to look at the fragments left and ancient testimonies of their work. Direct quotations of these *sophoi* are of great help but we rarely have these. The doxographic tradition usually suffices with summaries and when they provide us with direct quotations, it is usually for the sake of the very purpose of author who quotes these ‘natural’ philosophers, not for the sake of presenting a full view of their ideas. On such important doxography is Aristotle, who finds it a duty to review previous work on the subject he is discussing and his work *Peri Psykhes* which concerns his doctrine of the soul also has a preliminary section on the Presocratic views on the same subject.

Any study of the Presocratic philosophers begins with Thales in the early 6th century and we will here follow this tradition that began with Aristotle. Thales, being at the origin of philosophical enterprise, remains a quasi-mythical figure. Not much of what he says it left to us and of what is left, it is hard to construct a

⁵⁵ *ibid.* p. 68.

coherent account of things. However, luckily we have some idea of his view of the soul as one of these few testimonies recorded by Aristotle is on this topic, indeed: “Thales, too, to judge from what is recorded about him seems to have held soul to be a motive force, since he said that the magnet has a soul in it because it moves the iron”.⁵⁶ Now we have the first instance of a correlation between motion and the soul here. What seems to be a motionless object, a loadstone actually moves another piece of stone. Aristotle thinks that Thales must have considered the loadstone as alive because of this capacity for motion that it has. In other words, Thales thinks that it is only living things that have a capacity to move other things and since the loadstone has such a capacity, it must be alive. Another reference to Thales further on the same work of Aristotle relates the notion of the soul with that of divinity: “Certain thinkers say that the soul is intermingled in the whole universe, and it is perhaps for that reason that Thales came to the opinion that all things are full of gods”.⁵⁷ This quotation pertains to our topic in a very crucial way because though the reference is not certain, and only Thales is named, Aristotle might have Plato and his doctrine of the World Soul here in mind. For Plato, as we can remember, the whole body of the world is ensouled from its center to its outermost limits. Plato’s description of the world soul hence as contained and intermingled in every part of the body of the world befits Aristotle’s description of the idea of these ‘certain thinker’. And Aristotle’s testimony is important here as it points to former conceptions of this idea of the World Soul in Presocratic philosophers. However, here the concept is connected

⁵⁶ *De Anima*, 405a19-20.

⁵⁷ *De Anima*, 411a8-9.

with divinity. Thales' 'panentheism' is a result of his conviction that the soul is ubiquitous. Thales gives us two seemingly contradictory ideas. Whereas it should be possible to think about motion as the main category that distinguishes the living things from the dead, it is not possible to have a dead thing if the soul is everywhere. Thus we do not have inanimate things; soul is even in the stone, a seemingly most inanimate thing. Does this mean that there is no inanimate being? Kirk, Raven and Schofield in their classic study, *The Presocratic Philosophers*, conjecture that Thales probably meant that most things are alive, many more than we usually think to be alive, as 'full of' can mean both everything and most things.⁵⁸ Through his confused manner, Thales is our link between the philosophical world and the animistic Homeric world, as Guthrie remarks: "...there is no question of claiming that if Thales declared all things to be full of god, he is saying something new or unique. It can easily be seen as a relic of ineradicable animism, or animatism, of the Greeks which makes it all the more likely that he should have shared the belief himself".⁵⁹ Hence the multiple connections among life, soul, motion and divinity are a persistent trait of early Hellenic thinking from Homer down to Plato.

Although there is no trace of some link between soul and moist, the ultimate principle according to Thales, the absence of evidence does not mean evidence of absence, but could be explained by the scarcity of evidence we have from Thales. But such a link exists in Anaximenes, our next Presocratic philosopher, in the latter part of the 6th century, who thought about the soul

⁵⁸ Kirk, Raven and Schofield (1983), pp. 95-98.

⁵⁹ Guthrie (1962), p. 66.

(nothing being left from Anaximandros). The doxography of Aetius says the following: “Anaximenes son of Eurystratus, of Miletus, declared that air is the principle of existing things; for from it all things come-to-be and into it they are again dissolved. As our soul, he says, being air holds us together and controls us, so does wind [*or* breath] and air enclose the whole world”.⁶⁰ Anaximenes finds a parallel between the relation of his *arkhe* to the world and the relation of *psykhe* to human being. Air is the ultimate stuff out of which all things are made and come to be. It is the principle of everything as it controls the existence of everything. It is in this sense what keeps everything together. The similar situation is seen, according to Anaximenes with respect to soul which keeps us together, that is, controls our existence. Apart from this parallelism, Anaximenes, holding that the stuff of everything is the same as the stuff of humans, makes it possible to think humans and cosmos in the same manner. Cornford thinks that *physis*, being the object of study of the early philosophers is nothing but this ‘animate and divine substance’ and has a direct relation to soul because of the life in it: “It is a general rule that the Greek philosophers describe *physis* as standing in the same relation to the universe as soul does to the body”.⁶¹ And we see that this rule works in the case of Anaximenes. Humans and cosmos obey the same principle, ultimately air, so that what holds for macrocosm holds for microcosm as well. Here this is not just analogical thinking but direct identification of seemingly different worlds of

⁶⁰ Kirk, Raven and Schofield (1983), p.158-9. Aetius: 1, 3, 4 Ἀναξίμενης Εὐρυστράτου Μιλήσιος ἀρχὴν τῶν ὄντων ἀέρα ἀπεφίνατο. ἐκ γὰρ τούτου πάντα γίνεσθαι καὶ εἰς αὐτὸν πάλιν ἀναλύεσθαι. οἷον ἡ ψυχὴ, φησὶν, ἢ ἡμετέρα αἴρ οὔσα συγκρατεῖ ἡμᾶς, καὶ ὅλον τὸν κόσμον πνεῦμα καὶ αἴρ περιέχει..

⁶¹ Cornford (1991), p. 129.

macrocosm and microcosm. As Kirk, Raven and Schofield think, "...the idea of the soul holding together the body has no other parallel in a Presocratic source, or indeed in any Greek source before Aristotle", and as this is among the first psychological fragment to survive it is important.⁶² Moreover, there is a certain linking of soul and breath already in early Hellenic thinking as the two words seem etymologically connected ($\psi\upsilon\chi\eta$, $\psi\upsilon\chi\omega$) so that Anaximenes might be following this tradition (in Homer *psykhai* are breathed out from the body).

Herakleitos, (around 500) continues Anaximenes' idea of the identity of the ultimate principle with the principle in humans, the soul. Soul is hence fire, according to him, in consistency with his cosmological thinking. "For souls it is death to become water, for water it is death to become earth; from earth water comes-to-be, and from water, soul".⁶³ "A dry soul is wisest and best".⁶⁴ "A man when he is drunk is led by an unfledged boy, stumbling upon and not knowing where he goes, having his soul moist".⁶⁵ Herakleitos thinks of the soul through materialistic terms. For him there is constant strife in the universe. And everything emerges out of this strife. The elements are also in opposition to one another and water and fire are two of them. Now because soul is thought to be identical with the ultimate stuff of the world,⁶⁶ water is destructive to it. There is some kind of identification between the macrocosm and the microcosm, and if there is a

⁶² *ibid.* p.160.

⁶³ *ibid.* p. 203.

⁶⁴ *ibid.* p. 203.

⁶⁵ *ibid.* p. 203.

⁶⁶ There is doubt about the fire-soul identification. See Kahn (1979), pp.238-240.

conflict of opposing forces in the macrocosm, the soul should also be understood as a unity of opposing forces.⁶⁷ The dry and the wet and fire and water are the opposing forces at hand for the soul. That's why 'a moist soul' is when the soul gets weak due to drinking. And dryness being the inseparable character of fire, 'a dry soul' is wisest. As Schofield indicates, Herakleitos builds upon the Homeric concept of the soul by adding the concept further functions, the epistemological and the ethical: "Evil witnesses are eyes and ears for men, if they have souls that do not understand their language".⁶⁸ "It is hard to fight with anger; for what it wants it buys at the price of soul".⁶⁹ Here we have a much expansive conception of the soul than the one in the Homeric epics. Thus as Schofield maintains, "Heraclitus is in any case something of a pioneer in making human nature as important a subject of philosophy as the *kosmos*, so the suggestion of originality at this point chimes with our other evidence about him".⁷⁰

There is no explicit attribution of immortality to soul before Pythagoras (6th century). Although soul with Anaximenes comes to be associated with the principle of things, which we can hold to be indestructible, it seems that the principle of which the soul is made (air) is indestructible, not the soul itself. We cannot whole-heartedly derive immortality of the thing from that of its principle, not with Herakleitos either. However, Pythagoras does posit transmigration of the soul (*metempsykhosis*) as a story told in his biography by Diogenes Laertius that

⁶⁷ Hussey (1999), pp. 101-2.

⁶⁸ *ibid.* p. 188.

⁶⁹ *ibid.* p. 208.

⁷⁰ Schofield (1991), p.24.

he stopped a man beating a puppy as he recognized a friend's voice in the puppy.⁷¹ Here we have an understanding of the soul in terms of the individuality and the vitality it shows. It is the individual soul that transmigrates to the animal. However, more telling is psychological theory of a Pythagorean, as witnessed by Aristotle in his *De Anima*: "Alcmaeon also seems to have held a similar view about the soul [as Thales, Diogenes of Apollonia, Herakleitos]; he says that it is immortal because it resembles the immortals, and that this immortality belongs to it in virtue of its ceaseless movement; for all the divine things, moon, sun, the planets and the whole heavens, are in perpetual movement".⁷² This is the first identification of the soul with immortality.⁷³ And the connection is through motion. If the soul is constantly moving then it must be immortal. The divine is in unceasing movement and as the soul resembles the divine, which is traditionally believed to be immortal, then it must itself be immortal as well.

There is one other point to be mentioned with respect to the story told about Pythagoras. The puppy had the *psykhe* of Pythagoras' friend and it was being beaten and feeling pain. Hence the *psykhe* also comes to be a center of feeling, of having pleasure and pain, and other emotions as well. Furley points to the expansion of the meaning of the human *psykhe* in this context and think this to foreshadow the epistemological enlargement as well.⁷⁴ The emotional side is, however, mainly built up by the lyric poets of Archaic Hellas, where the soul is

⁷¹ Kirk, Raven, and Schofield (1983), p. 219.

⁷² *De Anima*, 405a29-b1.

⁷³ Kirk, Raven, and Schofield (1983), p. 347.

⁷⁴ Furley (1956), p. 11.

the center of emotional life for the first time.⁷⁵ Thus the emotions is among the newly functions that are attributed on the soul to perform which finds its counterpart in the ‘spirited’ part of Plato’s theory of the soul which is the unit that causes anger and fear and other feelings.

Lastly we should mention how Aristotle attributes a certain understanding of the soul to the Pythagoreans: “The doctrine of the Pythagoreans seems to rest upon the same ideas; some of them declared the notes in the air, others what moved them, to be soul. These notes were referred to because they are seen always in movement, even in a complete clam”.⁷⁶ We are not certain who in particular Aristotle refers to here but it is his custom to refer to the Pythagoreans as a group, as a sect rather than as individuals in the group. In any case, we have an identification of eternal motion with soul here as well, as the example of notes in complete rest of the air shows. Aristotle attributes this view to the Pythagoreans. However, he also detects the further appropriation of the view by other philosophers who might as well include Plato himself: “The same tendency is shown by those who define the soul as that which moves itself; all these seem to hold the view that movement is what is closest to the nature of the soul and that while all else is moved by soul, it alone moves itself. This belief arises from their never seeing anything originating movement which is not first itself moved”.⁷⁷ An understanding of the soul that belongs to Plato but that does not appear in the *Timeaus*, is that soul is what moves itself. Plato elaborates on this idea in the

⁷⁵ Laks (1999), pp. 251.

⁷⁶ *De Anima*, 404a17-20.

⁷⁷ *De Anima*, 404a21-24.

Phaidros and the last book of the *Laws* but we shall suffice with the mention now as our topic is mainly the Presocratic understanding of the soul and take the issue up below. It should be kept in mind that Plato might have derived his identification of self-motion and soul from these Pythagoreans. Aristotle's last allusion to the Pythagoreans on the soul is as follows: "There is yet another opinion about soul, which has commended itself to many as no less probable than any of those we have hitherto mentioned, and has rendered public account of itself in the court of popular discussion. Its supporters say that the soul is a harmony; for harmony is a blend or composition of contraries and the body is compounded out of contraries. Harmony, however, is a certain proportion or composition of the constituents blended..."⁷⁸ The wording seems especially suitable to Timaeus' discussion of the soul. The Demiurgic god had made a blend of the Being and the forms of the Same and the Different. And after blending these, he divided the mixture according to arithmetic proportions so as to make the World Soul and the individual souls from the leftover. Thus we both have the notion of contraries (the Different and the Same) and the notion of a proportionate mixture of these contraries. Therefore Aristotle might be referring to the Timaeian understanding here as well as the Pythagoreans. Moreover given that Timaeus himself comes from Locri, southern Italy where the Pythagorean philosophy is prevalent, the identification seems apt. But why does not Aristotle refer to the work explicitly? For there are those occasions when he points to the work, like at 404b16, and given that the *Timaeus* is that work of Plato that has received greatest attention by Aristotle. One reason might be that in the quotation above, the argument is that

⁷⁸ *De Anima*, 407b27-31.

because the body is made of the contraries, the soul is an attunement of these contraries if it is to rule the body. Hence there is still not a separation of the soul and body that we find in Plato and Aristotle. The Pythagoreans, though silent on the issue whether the nature of the soul is immaterial, cannot be said to originate the mind-body dichotomy.⁷⁹ Hence Plato's work is not the target of Aristotle in this quotation but that the mention of the body calls in Presocratic reasoning. Plato hence might have derived the idea of the soul as a harmony between contraries or that it is in constant motion from the Pythagoreans. However he built on the issue and proposed a deeper distinction between the body and the soul.

In passing, we should also have to note that the distinction between body and soul that we attain at the end of the 5th century has religious as well as philosophical roots. For we should also investigate how religious ideas are taken and used or demythologized by the philosophers. Vlastos' words are telling in this sense: "To set the contribution of pre-Socratic philosophy to the concept of the soul in its historical perspective, we must see how here, as in the concept of God, it is its peculiar genius to transpose a religious idea into the medium of rational inquiry, transforming, but not destroying, its associated religious values".⁸⁰ The Orphic cult which taught the transmigration of the personal soul and originated the conceptualization of the body as the prison of the soul brings to mind the elementary distinctions that are made between the body and the soul. As Laks mentions, "In addition, religious movements certainly contributed a great deal to the conceptualization of a personal psychic entity....The assimilation, in Orphic

⁷⁹ Barnes (1982), p. 476.

⁸⁰ Vlastos (1995a), p.30.

circles, of the body to the soul's tomb turns Homeric values upside down. The soul, far from suffering absolute deprivation when it leaves the body, only then begins its true life".⁸¹ We should remember that in Homer the soul was merely the ghost of the body and the afterlife hence was described as decadent with respect to the mundane life. But this understanding is reversed in Orphism as it is the embodied life that is decadent with respect to the pure life of the soul after death.⁸² The reversion is well absorbed by Platonic understanding, which traditionally recognizes philosophy as a preparation for death.

Like Anaximandros, we have no mention of the soul *per se* in Parmenides (early 5th century) though his epistemological and ontological views have bearing on later philosophy on the soul. Parmenides brings forth the most important contribution on the distinction between Being and Becoming and on the primacy of the former for knowledge. Parmenides talks about the appropriation of the Being with *noos* and *phronein*.⁸³ *Noos* is what we have to view the Being. And Parmenides' notion of the unchanging, eternal, uncreated and indestructible, one and continuous, perfect Being influences the latter attributions of some of these concepts to the soul itself in opposition to the body.

Similar to Parmenides, we hardly receive a mention of the *psykhe* in Empedocles (around 450) though he has views on perception and thinking, on religious purification, on transmigration in what remains of the two of his works, *On Nature* and *On Purifications*. He himself claims to have undergone

⁸¹ Laks (1999), pp. 251-2.

⁸² Laks (1999), p.252.

⁸³ Furley (1956), pp. 12-3.

transmigrations: “For I have already been once a boy and a girl, a bush and a bird and a leaping journeying fish”.⁸⁴ For Empedocles, it is the *daimon* that survives the body after death, “spirits whose portion is long life”.⁸⁵ While Empedocles, thus, believes in transmigration of his soul, he still does not hold the soul to be an immaterial substance. For his theory of perception and knowledge is remarkably materialistic. It is guided by the principle ‘like knows like’. “And he has the same theory about thought and ignorance. Thinking is of like by like, ignorance of unlike by unlike, thought being either identical with or closely akin to perception...So it is especially with blood that they think; for in the blood above all other parts the elements are blended”.⁸⁶ All four elements are perceived by the accompanying identical elements in the sense organs. Cornford states about the principle that “...if the Soul is to know the world, the world must ultimately consist of the same substance as Soul. Physis and Soul must be homogeneous”.⁸⁷ Perception is not separated from understanding, but is its guide.⁸⁸ “Come now, observe with all your powers how each thing is clear, neither holding sight in greater trust compared with hearing, nor noisy hearing above the passages if tongue, nor withhold trust from any other limbs, by whatever way there is a

⁸⁴ Kirk, Raven, and Schofield (1983), p. 319.

⁸⁵ *ibid.* pp. 314-5.

⁸⁶ Kirk, Raven, and Schofield (1983), pp.310-331. Theophrastus de sensu 9 (DK 31 A 86) ὡσαύτως δὲ λέγει καὶ περὶ φρονήσεως καὶ ἀγνοίας. τὸ μὲν γὰρ φροσεῖς εἶναι τοῖς ὁμοίοις, τὸ δ’ἀγνοεῖν τοῖς ἀνομοίοις, ὡς ἢ ταῦτ’ ἢ παραπλήσιον ὄν τῆι αἰσθήσει τὴν φρόνησιν...διὸ καὶ τῶι αἵματι μάλιστα φρονεῖν. ἐν τούτῳ γὰρ μάλιστα κεκρᾶσθαι [ἐστὶ] τὰ στοιχεῖα τῶν μερῶν.

⁸⁷ Cornford (1991), p. 133.

⁸⁸ Furley (1956), pp. 14-5.

channel to understanding, but grasp each thing in the way in which it is clear”.⁸⁹ How can one attribute materialistic explanations for psychic phenomena while also positing the idea of the transmigration of the soul? The question has generated a debate beginning with the 19th century classical scholar, Eduard Zeller, but for Kahn, one has to separate the two conceptions of the *psykhe* in Hellenic philosophy. “In Greek philosophy, then, there is always an implicit distinction between the soul which survives—the immortal and therefore divine principle in man—and the soul in the broader sense, as the living totality of feeling, thought, and desire. Confusion between the two is naturally facilitated by the fact that *psuchē* may designate either one”.⁹⁰ Even given such a distinction, the fragment indicates clearly the materialistic epistemology Empedocles builds on the senses. For him understanding is sound only through perceptions received from the senses. Thus our contact with the world is constituent on the knowledge edifice we build. Once more in Empedocles we hardly encounter a conception of the soul apart from the body, but on the contrary, knowledge is explained through bodily terms.

Anaxagoras (around 450) does not talk extensively about the *psukhe* as such but *nous* occupies a prominent place in his cosmology, similar to the place the Demiurge occupies in the cosmology of Timaeus. But we can take his discussion on *nous* into consideration for according to Aristotle, “...in practice [Anaxagoras] treats [soul and thought] as a single substance, except that it is thought that he specially posits as the principle of all things; at any rate what he

⁸⁹ Kirk, Raven and Schofield (1983), pp. 284-5.

⁹⁰ Kahn (1993), p. 436.

says is that though alone of all that is simple, unmixed, and pure. He assigns both characteristics, knowing and origination of movement, to the same principle when he says that it was thought that set the whole in movement”.⁹¹ Thus thought is separated from other entities in its purity. We can read this as a step toward separation of *nous* from material entities however we cannot legitimately assert that *nous* is something immaterial, according to Anaxagoras.

All other things have a portion of everything, but Mind is infinite and self-ruled, and is mixed with nothing but is alone all by itself...For it is the finest of all things and the purest, it has all knowledge about everything and the greatest power; and Mind controls all things, both the greater and the smaller, that have life. Mind controlled the whole rotation, so that it began to rotate in the beginning...⁹²

Thus by the time of Anaxagoras we realize a unification of soul with thinking and movement and a corresponding abstraction of the soul from the bodily things is underway. But we have to point out that no matter how fine a matter soul is, it is still material in Anaxagoras. The activity of the *Nous* also reminds the association of the rotating movement as the most suitable of the seven kinds of movement in the *Timaeus*. And the activity of *Nous* is analyzed into the activity of the Demiurge and that of the World Soul in the *Timaeus*. While the organizing motion is the activity of the former, as making a *kosmos* out of the chaotic material, the rotation explains the astronomical events as well as the thinking activity of the humans. In order to judge the influence of Anaxagoras on Platonic natural

⁹¹ *De Anima*, 405a14-19.

⁹² Kirk, Raven and Schofield (1983), pp. 362-3. Fr. 12, Simplicius in *Phys.* 164, 24 and 156, 13 τὰ μὲν ἄλλα παντὸς μοῖραν μετέχει, νοῦς δὲ ἐστὶν ἄπειρον καὶ αὐτοκρατὸς καὶ μέμικται οὐδενὶ χρήματι, ἀλλὰ μόνος αὐτὸς ἐφ’ἑαυτοῦ ἐστίν. ἐστὶ γὰρ λεπτότατόν τε πάντων χρημάτων καὶ καθαρῶτατον, καὶ γνώμην γε περὶ παντὸς πᾶσαν ἴσκει καὶ ἰσχύει μέγιστον. καὶ ὅσα γε ψυχὴν ἔχει, καὶ τὰ μείζω καὶ τὰ ἐλάσσω πάντων νοῦς κρατεῖ. καὶ τῆς περιχωρήσιος τῆς συμπάσης νοῦς ἐκράτησεν, ὥστε περιχωρήσαι τὴν ἀρχήν.

philosophy we also have to keep in mind the dissatisfaction and disappointment of Socrates who in his youth was enthusiastic for the philosophy of Anaxagoras where the prominent place was given to the soul. However he was extremely disappointed and let go of Anaxagoras' thinking, when he realized that Anaxagoras did not fully extend the area of influence that the nous would possess in explaining nature but would start to explain phenomena on the bases of the four elements alone.⁹³ Thus Anaxagoras had an important influence on Plato both on the doctrine of the soul and on methodology in natural philosophy, that is, on the right kind of causality to be attributed to and sought in things natural.

⁹³ Phaidon, 97b-98d. ἀλλ' ἀκούσας μὲν ποτε ἐκ βιβλίου τινός, ὡς ἔφη, Ἀναξαγόρου ἀναγιγνώσκοντος, καὶ λέγοντος ὡς ἄρα νοῦς ἐστὶν ὁ διακοσμῶν τε καὶ πάντων αἴτιος, ταύτη δὴ τῇ αἰτίᾳ ἦσθην τε καὶ ἔδοξέ μοι τρόπον τινὰ εὖ ἔχειν τὸ τὸν νοῦν εἶναι πάντων αἴτιον, καὶ ἠγησάμην, εἰ τοῦθ' οὕτως ἔχει, τὸν γε νοῦν κοσμοῦντα πάντα κοσμεῖν καὶ ἕκαστον τιθεῖναι ταύτη ὅπῃ ἂν βέλτιστα ἔχη· εἰ οὖν τις βούλοιο τὴν αἰτίαν εὑρεῖν περὶ ἕκαστου ὅπῃ γίνεταί ἢ ἀπόλλυται ἢ ἐστὶ, τοῦτο δεῖν περὶ αὐτοῦ εὑρεῖν, ὅπῃ βέλτιστον αὐτῷ ἐστὶν ἢ εἶναι ἢ ἄλλο ὅτιοῦν πάσχειν ἢ ποιεῖν· ἐκ δὲ δὴ τοῦ λόγου τούτου οὐδὲν ἄλλο σκοπεῖν προσήκειν ἀνθρώπῳ καὶ περὶ αὐτοῦ ἐκείνου καὶ περὶ τῶν ἄλλων ἀλλ' ἢ τὸ ἄριστον καὶ τὸ βέλτιστον. ἀναγκαῖον δὲ εἶναι τὸν αὐτὸν τούτου καὶ τὸ χεῖρον εἶδέναι· τὴν αὐτὴν γὰρ εἶναι ἐπιστήμην περὶ αὐτῶν. ταῦτα δὴ λογιζόμενος ἄσμενος ἠύρηκέναι ὦμην διδάσκαλον τῆς αἰτίας περὶ τῶν ὄντων κατὰ νοῦν ἐμαυτῷ, τὸν Ἀναξαγόραν, καὶ μοι φράσειν πρῶτον μὲν ὅτερον ἢ γῆ, πλατεῖα ἐστὶν ἢ στρογγύλη, ἐπειδὴ δὲ φράσειεν, ἐπεκδιηγῆσθαι τὴν αἰτίαν καὶ τὴν ἀνάγκην, λέγοντα τὸ ἀμείνον καὶ ὅτι αὐτὴν ἀμείνον ἦν τοιαύτην εἶναι· καὶ εἰ ἐν μέσῳ φαίη εἶναι αὐτὴν, ἐπεκδιηγῆσθαι ὡς ἀμείνον ἦν αὐτὴν ἐν μέσῳ εἶναι· καὶ εἰ μοι ταῦτα ἀποφαίνοι, παρεσκευάσμη ὡς οὐκέτι ποθεσόμενος αἰτίας ἄλλο εἶδος. καὶ δὴ καὶ περὶ ἡλίου οὕτω παρεσκευάσμη ὡσαύτως πευσόμενος, καὶ σελήνης καὶ τῶν ἄλλων ἄστρον, τάχους τε πέρι πρὸς ἄλληλα καὶ τροπῶν καὶ τῶν ἄλλων παθημάτων, πῆ ποτε ταῦτ' ἀμείνον ἐστὶν ἕκαστον καὶ ποιεῖν καὶ πάσχειν ἢ πάσχει. οὐ γὰρ ἂν ποτε αὐτὸν ὦμην, φάσκοντά γε ὑπὸ νοῦ αὐτὰ κεκοσμηθῆναι, ἄλλην τινὰ αὐτοῖς αἰτίαν ἐπενεγκεῖν ἢ ὅτι βέλτιστον αὐτὰ οὕτως ἔχειν ἐστὶν ὡς περ ἔχει· ἕκαστῳ οὖν αὐτῶν ἀποδιδόντα τὴν αἰτίαν καὶ κοινῇ πᾶσι τὸ ἕκαστῳ βέλτιστον ὦμην καὶ τὸ κοινὸν πᾶσιν ἐπεκδιηγῆσθαι ἀγαθόν· καὶ οὐκ ἂν ἀπεδόμην πολλοῦ τὰς ἐλπίδας, ἀλλὰ πάνυ σπουδῆ λαβὼν τὰς βίβλους ὡς τάχιστα οἶός τ' ἢ ἀνεγίγνωσκον, ἵν' ὡς τάχιστα εἰδέην τὸ βέλτιστον καὶ τὸ χεῖρον. ἀπὸ δὲ θαυμαστῆς ἐλπίδος, ὡ ἐταῖρε, ὡχόμεν φερόμενος, ἐπειδὴ προΐων καὶ ἀναγιγνώσκων ὄρω ἄνδρα τῷ μὲν νῶ οὐδὲν χρώμενον οὐδέ τινας αἰτίας ἐπαιτιώμενον εἰς τὸ διακοσμεῖν τὰ πράγματα, ἀέρας δὲ καὶ αἰθέρας καὶ ὕδατα αἰτιώμενον καὶ ἄλλα πολλὰ καὶ ἄτοπα. καὶ μοι ἔδοξεν ὁμοιότατον πεπονθέναι ὡς περ ἂν εἰ τις λέγων ὅτι Σωκράτης πάντα ὅσα πράττει νῶ πράττει, κάπειτα ἐπιχειρήσας λέγειν τὰς αἰτίας ἕκαστων ὧν πράττω, λέγοι πρῶτον μὲν ὅτι διὰ ταῦτα νῦν εὐθάδε κᾶθημαι, ὅτι σύγκειται μοι τὸ σῶμα ἐξ ὀστέων καὶ νεύρων, καὶ τὰ μὲν ὀστᾶ ἐστὶν στερεὰ καὶ διαφυᾶς ἔχει χωρὶς ἀπ' ἀλλήλων, τὰ δὲ νεῦρα οἷα ἐπιτείνεσθαι καὶ ἀνίσθαι, περιαμπέχοντα τὰ ὀστᾶ μετὰ τῶν σαρκῶν καὶ δέρματος ὃ συνέχει αὐτὰ· αἰωρουμένων οὖν τῶν ὀστέων ἐν ταῖς αὐτῶν συμβολαῖς χαλῶντα καὶ συντείνοντα τὰ νεῦρα κάμπτεσθαι που ποιεῖ οἷόν τ' εἶναι ἐμὲ νῦν τὰ μέλη, καὶ διὰ ταύτην τὴν αἰτίαν συγκαμφθεὶς εὐθάδε κᾶθημαι·

Diogenes of Apollonia (contemporary of Socrates, latter half of 5th century) is among the natural philosophers whom Aristotle mentions in his examination of former views on the soul. Here is what he reports about him: “Diogenes (and others) held the soul to be air because he believed air to be finest in grain and a first principle; therein lay the ground of the soul’s powers of knowing and originating movement. As the primordial principle from which all other things are derived, it is cognitive; as finest in grain, it has the power to originate movement”.⁹⁴ The two most important powers of the soul are united here: knowledge and motion. And this is the result of the identity of the soul with the principle of things for Diogenes. In this sense Diogenes is similar to Anaximenes who thought too that the soul was basically air, the principle of the *kosmos*. However we did not have the function of cognition with Anaximenes which is preserved in the unification we have received in the end of the 5th century. Moreover the identification of an intelligent being (soul) with the ultimate principle of things also paved the way for the intelligibility of the whole, which renders natural philosophy possible as such. It is because of the soul that the whole is called a *kosmos*. But once again we have to keep in mind the materiality of the soul. Furley ends his discussion of early views on the soul with Diogenes of Apollonia (hence without examining the Atomists) for, according to him, it is ‘the typical achievement’ of its kind in that life, sensation, thought, as well as the Homeric psychological concepts of *nous*, *phrenes* in the form of *phronesis* (*thymos* being somewhat eclipsed by the rational part) are all embedded

⁹⁴ *De Anima*, 405a 21-24.

in the concept of the *psykhe* as Diogenes uses it.⁹⁵ Moreover the ultimate stuff, air and so is the soul divine. Nevertheless the soul is referred to in material terms. But we will not complete our task if we omit the Atomists as they are most closely associated with Plato (they were philosophical rivals) and they are most conscious of their materialistic understanding of the soul. It is only if we know their understanding that we can fully appreciate Plato's discussion of the soul in the *Timaeus*.

For Demokritos (around the latter half of 5th century), the soul, as any other entity in the universe, is made up of atoms. It is bodily. It originates movement of other things. It is identical with thought, which is an interaction of atoms with other sensory atoms, similar to the Empedoclean theory of perception. And its powers are endowed to it as a result of the physical shape of atoms. These are apparent from the testimony of Aristotle:

Democritus has expressed himself more ingenuously than the rest on the grounds for ascribing each of these two characters to soul; soul and thought are, he says, one and the same thing, and this thing must be one of the primary and invisible bodies, and its power of originating movement must be due to its fineness of grain and the shape of its atoms; he says that of all the shapes the spherical is the most mobile, and that is the shape of the particles of both fire and thought.⁹⁶

Hence Demokritos is clearly explicit about the juxtaposition of motion, thought and atoms. The bodily shape of atoms renders them mobile and suitable for thought. They are explicitly material in make-up but the persistent theme of fine matter is again seen here in the similarity of soul atoms and fiery atoms, which are the two most mobile of the atoms.

⁹⁵ Furley (1956), p. 16.

⁹⁶ *De Anima*, 405a8.

This concludes our survey of the early Hellenic understanding of the soul from Homeric epics down to the time of Plato. We have seen the evolution of an ambiguous Homeric concept that worked like the ghost of the heroes to leave them at death to evolve into a complex structure to capture functions of thinking, perceiving, feeling and originating motion. The concept also expanded its meaning by receiving the connotations of immortality, constant mobility and divinity. This is the raw material that Plato has received from the tradition and on which he is elaborating in his work, the *Timaeus*.

CHAPTER IV

THE EXPLANATORY POWER OF THE WORLD SOUL IN PLATO'S PHILOSOPHY OF NATURE AND SCIENCE

We have hitherto given an elongated summary of the cosmology of the *Timaeus*. In this summary the concept of the World Soul also had its place and we have described what Plato had to say about it. We have seen that it is made up by the Demiurge, described in mythological manner, who mixed the intermediaries of the forms of Being, Sameness and Difference so as to produce a mixture in a mixing bowl. This was later divided according to harmonic proportions (harmonic, standing for the idea of musical harmony as described in mathematical manner in the Pythagorean manner) so as to make two circles, one inside the other, which reveal the motion of the Same (fixed stars) and motion of the Different (the planets). Thus these circles show the activity of the World Soul in the world that is most readily visible.

We, on the other hand, have discussed about the development of the concept of the soul through the Archaic Greece to the time of Plato. We have come to see that there was no notion of the soul in Homer as Plato knew it, not to tell the greater distance to our modern view of psychology. In Homer, the soul, though can vaguely be thought to be separate from the body, cannot be said to

have the positive existence Plato attributes to it. It does not have the most proper functions as perception and knowledge, nor does it have such a direct relation to life and motion as we see later in Presocratic philosophers and in Plato. On the other hand, we have witnessed how these functions, thought to be most proper to soul by Plato, were gradually attributed to the concept of the soul among many other psychological functions. In other words, it was shown how among the psychological concepts that we encounter in Homer, like *psykhe*, *thymos*, *noos*, the latter two were subordinated under the former through the theorizing of the Presocratic philosophers. The soul came to possess most of its functions as initiator of motion, provider of life, seat of cognition and emotions and ethical activity. But what was, perhaps, the most persistent feature of the Presocratic views on the soul, no matter how they came to theorize about it, we saw to be the materialistic manner in which they presented their discourse. No matter how a different kind of matter the soul is made up of, whether fastest-moving fire in Herakleitos, or the thinnest air in Anaximenes and Diogenes of Apollonia, or the subtlest class of atoms in Democritus, the soul was always held to be bodily, and was not thought apart from the basic constituent of the universe. This was something Plato came to deny and it is hence one of Plato's major objections to the Presocratic cosmologies. But why Plato denied that the soul was, after all, bodily is something we must discuss deeper in detail, which is how we will initiate this chapter which is about the epistemological significance of the discourse on the World Soul in the cosmological theory of Plato as described by the account of Timaeus.

We began the investigation by asking about the validity of discoursing on the natural world with concepts that do not belong to this world. With Aristotle, we asked to what extent the study of the soul was allowed in natural philosophy and Aristotle had claimed that it was only to the extent that the soul was the embodied one which helps in the study of living things that the study of the soul was allowed in physics (as Aristotle's physics covered any being that is changing, including animals). The theoretical part of the soul is what Aristotle would hold apart from physics because of the nature of the unchanging ideas that are contained in them, that is the Forms, which would contradict the basic meaning of physics. However we see that all of the constituents of the soul in Plato's cosmology are Forms, that is unchanging and eternal material and Plato incorporates such material to a discourse on 'what is always becoming but never is' as he describes the Becoming realm in the beginning of the cosmological account. Things get even more complicated when we realize that two of these forms are that of Being and that of the Same. We grant that the Form of the Different, though absolutely a Form and an unchanging Being in this respect, can relate itself with Becoming as the latter is always different from itself and never the same as it is. But we have to explain the *raison d'etat* of these other two forms which essentially have nothing to do with the world of Becoming as such. The discussion of this problem will enhance our understanding of the place of the World Soul in Plato's cosmology.

These considerations lead us to pose the following question: Is the soul the *explanans* or the *explanandum* of the cosmological account in the *Timaeus*? The idea that it is a concept that does not belong to the world of Becoming for which it

is purported to explain urges us to place it on the side of the *explanans*. On the other hand, its being discussed at such a great length in the *Timaeus* and its occupying a most important place in the scheme of the generation of the world inevitably prompt us to think that it is something that has to be explained in the course of the cosmological narration. The concept of Being is also discussed at the beginning of the account as we saw. However, the discourse of Being is merely in outline, only so as to differentiate it from Becoming and to make sense of the different truth values of the accounts that concern Being and Becoming (the former certain, the latter as likely as possible). But Being is never discussed at any length comparable to the discussion of the world soul because the discussion is merely a cosmological account that has its object as the Becoming realm. The Demiurge, though clearly important in the account thereof as ‘the father’ and ‘the maker’ of the world, clearly does not belong to the Becoming realm, and hence does not also receive discussion on his own right. It is for this reason that it is usually named the Demiurge rather than the God as such, because what is necessary for Plato in the cosmological account is the God as Demiurge only. Thus only the Demiurgic activity is discussed and no theological discussion with respect to the Demiurge as a god is allowed beyond an outline. The discourse on Being and the god takes place in other dialogues of Plato which are not cosmological or physical in intention as the *Parmenides* or the *Republic*. Contrasted with these other items (Being, the Demiurge) in the cosmological narration of the *Timaeus* which as well do not belong to the realm of the Becoming as soul, the length at which the discussion of the soul is treated calls for special attention on our part. Considering both sides of the medallion, the soul can

be said to occupy an ambiguous role on the theory of cosmological explanation in Plato's *Timaeus*. In other words, the soul occupies places both in the account of certain physical matters in the world of the *Timaeus* and in the philosophy of science or explanation of the *Timaeus*. The soul is certainly brought in to explain various phenomena of the world, like the motion of the heavenly bodies or motion in general, the existence of living things. These physical matters are all explained by introducing of the World Soul. It is also possible to trace how the Presocratic building of the notion of the soul is incorporated into the Platonic cosmology; for most of these explanations are based on the functions that have come to be attributed to the concept of the soul before Plato. Plato cannot claim genuine theorizing here. However for the other side of the medallion he can. The soul is also explained and its explanation helps in the explanatory power of Plato's cosmology. In other words, the explanation of the make-up of the soul contributes to a conception of the universe that is fully different from the Presocratic world in that the Platonic world is provided firm grounds for the order it possesses and the intelligibility it contains in a much stronger sense than the Presocratic cosmologies allow. The soul being an intermediary between the realm of Being and Becoming enable the latter to be cognized through the former. That is, by the introduction of the soul to the world's body, Plato made a mathematical physics possible that is a major development with respect to the Presocratic science, with respect to the intelligibility of the world in mathematical terms. Therefore we have to take up the question of the place of the World Soul in the cosmological account of Plato in two distinct sections; with respect to Plato's physics itself, and with respect to Plato's philosophy of science or explanation.

4.1 World Soul in Plato's Physics

4.1.1 The World as a Living Animal in Presocratic

Cosmological Thinking

In order to see what aspects of the physical world are explained by the World Soul, we have to remember the survey of the Presocratic theorizing on the soul and think about the various functions that are attributed to the notion of the soul. Because Plato did not write in a vacuum, and because cosmological speculation is the major field of expertise of the Presocratic philosophers, Plato's work has to be seen in conjunction with the work of the Presocratics and this was the reason why we discussed their views. On the other hand, we have to take their psychological theories from a different aspect. We have to see if there is any use of a similar concept of the soul as the World Soul in the *Timaeus*. That is, we have to ask if the Presocratics think of the world at large as a living being at all.

We can begin by asking the meanings of the principle terms the Presocratics use and the semantic relations between them. The Presocratics are not called cosmologists in their own times but physiologists (φυσιολόγοι) as Aristotle calls them. And the word for nature (φύσις) occurs more than does κοσμός in their writings which are usually named On Nature (Περί Φυσεώς).⁹⁷ The noun φύσις is etymologically connected to φυώ (I grow). We do not find this concept in the Homeric texts as such and we find the verb only once in relation to the growth of a magical plant.⁹⁸ The Presocratic understanding of nature was

⁹⁷ Vlastos (2005), p.18.

⁹⁸ Lloyd & Sivin (2002), p. 143.

primarily in three senses: (1) Nature as the primary stuff, (2) Nature as growth (3) Nature as the outcome of this growth.⁹⁹ The Presocratic program was to explain how the order in nature came to develop from chaos which process is what we associate the name cosmogony with. Plato is usually cautious to use the word *φύσις* for he wants to preserve a certain distance between himself and the physiologists¹⁰⁰ because he does not want to attribute intelligent agency to the nature itself, to blind Necessity in his terminology, but wants to trace the cosmogonic process via the introduction of the World Soul. Hence in the understanding of nature as growth, we already have a sense of the *kosmos* as a living and growing animal from the very beginning.

Above we discussed what the Presocratics thought about the soul and the concepts that they related it with. Now the question is: what explanatory power does the soul have with respect to the scientific cosmologies of the Presocratics? For this section, I owe greatest debt to the work of G. E. R. Lloyd. In his study of the types of argumentation, *Polarity and Analogy*, Lloyd considers and analyzes in the Hellenic cosmological thinking three different but interconnected ways of speaking about the universe.¹⁰¹ These are the analogical ways of thinking about universe and the three major analogies are the state the animal body, and the craftsman analogies. The Presocratic theorizing about the universe is guided by these three images and the *kosmos* is understood as if it were a body politic, an animal body and as a mechanical body (as a work of the craftsman god). Now

⁹⁹ Naddaf (2005), p.20.

¹⁰⁰ Hadot (2006), p.21.

¹⁰¹ Lloyd (1992), 210-303.

these are not mutually exclusive categories and in Plato we can see all of these metaphors in use. Plato uses the political analogy when the world is said to be governed by an intelligence and everything has its place within a scheme of things, and when he presents the Demiurgic god as the ruler of the world and makes Necessity obey the rule of Reason.¹⁰² The use of the craftsman analogy is also clear from the conception of the maker of the world as a craftsman God and the world as a work of some craft. And viewing the world as a living body points to the biological analogy. Similar thinking abounds in Presocratic cosmologies but we will be seeking mainly the biological analogy in order to conceptualize the world. Did the Presocratics really believe that the world was a living animal or did they use it just as an analogy? And what results on their theorizing does the analogy bear? The Presocratics do not seem to be in full awareness of the imagery in their thinking. “To them it may have seemed ‘explanation’ enough of an obscure problem to suggest an image from more familiar experience, e.g. to represent cosmological changes in terms of a concrete social situation”.¹⁰³ What we have of them is relatively little but the fragments do not provide us with any ‘epistemological’ consciousness on the part of the Presocratic philosophers. They present similarities between cosmological events and more daily phenomena and think that the problematic aspect is made intelligible. “...it is often the case that the cosmological doctrines of the Presocratics appear to consist nothing but a concrete image. So far as we know it, it was Plato who first drew an explicit general distinction between an image and a demonstrative account, pointing out

¹⁰² *ibid.* p. 220.

¹⁰³ *ibid.* p. 229.

that the first falls short of the second, and...it is arguable that the Presocratics not only did not formulate this distinction, but tended in practice rather to ignore it".¹⁰⁴ Lloyd has the likely account and the rational account distinction in mind that we have seen in the *Timaeus* and points to the fact that such an epistemologically-conscious attitude we do not come across in the Presocratics. Though the Presocratics usually discussed about the world as if it were an organism, they were hence not conscious about how well their discourse was suited to their means, namely explanation of the world. And it is in Plato who is also our first major epistemologist in the full sense of the word, that we find such a concern about the types of discourse suitable for cosmology.¹⁰⁵

This naïveté on the part of the Presocratics granted, we can find traces of the conception of the world as a living being in the Presocratics. As Lloyd says, "[t]wo themes which recur in Greek philosophy from the Presocratic period onwards are the notion that the primary substance of things is in some sense instinct with life, and the idea that the world as a whole (or at least is like) a living organism".¹⁰⁶ Lloyd claims that traces of the idea of the world as a living animal can be found in most of the Presocratic philosophers.¹⁰⁷ Thales' injunction that 'all things are full of gods', the immortality of the Boundless in Anaximandros, Anaximenes' comparison of the world to a man, as discussed above in the fragment about soul point to this idea. One of the most important characterizations

¹⁰⁴ *ibid.* p. 229.

¹⁰⁵ The Sophists were also epistemologists but they hardly discussed natural philosophy at all.

¹⁰⁶ *ibid.* p. 233.

¹⁰⁷ *ibid.* pp. 233-53.

of fire, the world stuff for Herakleitos, is its ever-lastingness. And Herakleitos, in the fragment we discussed above, claimed the soul to be made of the same material of the universe. So if fire is ever-lasting, then soul is also such in some implicit sense. The Pythagorean doctrine of the transmigration of souls point to a distinction between animate and inanimate things, as the body that the soul transmigrates becomes dead and the body into which it transmigrates becomes alive. But they still think the world as a living animal as suggests the fragments. The problem of motion or change, which is basic for any being endowed with life at this point of the history of cosmological speculation is not recognized by pre-Parmenidean philosophers whereas with Parmenides, the world can never be thought to be a living growing animal any more, as motion does not pertain to 'what is', but is an illusion. However, the route from Parmenides' idea of the sexual attraction between Night and Light, followed by the Love (φιλία) of Empedocles as the source of growth, culminates in the idea of the seed (σπέρμα) as the basic stuff of the world, a major contribution of Anaxagoras is introduced which gives us a direct relation with life, hence promoting the biological analogy. The idea is preserved by the Atomists in their seed-mass (πανσπερμία) which fuses the mass of atoms with life. Diogenes of Apollonia also thinks that air, the basic stuff of the world, is immortal and divine. The idea is also present in the Hippocratic texts dating to the same era. There is hence a continuation of the idea of the world as a living organism even after the Parmenidean attack on any kind of change or growth, which is a basic activity of living things. The major difference in attitude is on the part of Plato, according to Lloyd:

[W]hen the Presocratics represented the world as a living being, the emphasis generally lay not on the *different* natures of the body and the (transmigrating) soul, but rather on the idea that the world as a whole forms a *single* living organism. What seems quite new and exceptional in Plato's references to the world-living-animal is, then, that they incorporate and take into account his conception of the distinction in essence between its visible body and its invisible soul, which is the source of movement, life and intelligence in all things.¹⁰⁸

This answers partly the question why Plato's introduced something that is non-bodily into the explanation of what is bodily that we had asked above. Plato's discussion of the world soul is different from the Presocratic discussion, in that while the former did not differentiate between the body and the soul, Plato needed this distinction in order to explain certain qualities of that body which it cannot possess by itself alone, namely motion, life and intelligence. Lloyd presents us with a brief account of the importance of the idea of the world as a living animal with respect to Ancient Hellenic science. "The continued influence of certain vitalist conceptions is quite marked in Plato and Aristotle, and again the ideas in question are not merely religious or mystical beliefs, but play an important part in the solutions to certain problems in cosmology".¹⁰⁹ We cannot disregard the scientific explanatory value of the World Soul in Plato because it is a genuine tool to answer certain questions about the universe.

4.1.2 The Soul-Motion Relation in Plato's Other Dialogues

Although we have been discussing Plato's doctrine of the soul, and especially the World Soul in the *Timaeus*, Plato's discussion spreads over many

¹⁰⁸ *ibid.* p. 254.

¹⁰⁹ *ibid.* p. 266.

dialogues written in the course of his life, like the *Phaidon*, the *Republic*, the *Phaidros*, the *Politikos*, the *Philebos*, the *Laws* and the *Epinomis* (whose authenticity is dubious).¹¹⁰ We cannot have the discussion of all of these texts, as it is virtually impossible to cover every detail. Moreover, many of the discussions of the soul concern the human soul and in this respect it is situated in a political or ethical concept, which does not pertain to our topic in an essential way. However two of these dialogues shed further light on the use of World Soul with respect to motion in the universe and these texts we must discuss as accompanying texts to the *Timaeus*. In the *Phaidros*, Socrates talks about the World Soul in its relation to motion:

Now we must first understand the truth about the nature of the soul, divine or human, by examining what it does and what is done to it. Here begins the proof:

[All] soul is immortal. That is because whatever is always in motion is immortal, while what moves, and is moved by, something else stops living when it stops moving. So it is only what moves itself that never desists from motion, since it does not leave off being itself. In fact, this self-mover is also the source and spring of motion in everything else that moves; and a source that has no beginning. That is because anything that has a beginning comes from some source, but there is no source for this, since a source that got its start from something else would no longer be the source. And since it cannot have a beginning, then necessarily it cannot be destroyed. That is because if a source were destroyed it could never get started again from anything else and nothing else could get started from it – that is, if everything gets started from a source. This then is why a self-mover is a source of motion. And *that* is incapable of being destroyed or starting up; otherwise all heaven and everything that has been started up would collapse, come to a stop, and never have cause to start moving again. But since we have found that a self-mover is immortal, we should have no qualms about declaring that this is the very essence and principle of a soul, for every bodily object that is moved from outside has no soul, while a body whose motion comes from within, from itself, does have a soul, that being the nature of a soul; and if this is so – that whatever moves itself is

¹¹⁰ For a comprehensive survey, see Robinson (1970).

essentially a soul – then it follows necessarily that soul should have neither birth nor death.¹¹¹

This passage is one of the important occasions where Plato talks about the World Soul and speculates about the nature of the soul, making a direct relation between soul and eternal motion. It is a very condensed but well-argued passage and the inference of the immortality of the soul from its unceasing motion seems to be analytic. Anything that is always in motion is eternal because for something to do something always, it has to be immortal itself. On the other hand, only one type of thing is suitable to this definition, and it is that which moves itself. For something that is moved by others, even though it moves other things will stop moving once its mover is no longer present. Thus it is only that which moves itself whose mover can never disappear because it is a self-mover. This brings us to a most important cosmological assertion, namely that all motion in the universe is due to the soul. The origin of all motion in the universe is ultimately the soul, as the soul is the self-mover hence the initiator of all other motion by moving other things.¹¹²

¹¹¹ *Phaidros*, 245c-e in Cooper (1997). δεῖ οὖν πρῶτον ψυχῆς φύσεως περί θείας τε καὶ ἀνθρωπίνης ἰδόντα πάθη τε καὶ ἔργα τάληθες νοῆσαι· ἀρχὴ δὲ ἀποδείξεως ἦδε. ψυχὴ πάσα ἀθάνατος· τὸ γὰρ ἀεικίνητον ἀθάνατον· τὸ δ' ἄλλο κινεῖται καὶ ὑπ' ἄλλου κινούμενον, παύσαν ἔχον κινήσεως, παύσαν ἔχει ζωῆς· μόνον δὲ τὸ αὐτὸ κινεῖται, ἅτε οὐκ ἀπολείπον ἑαυτὸ, οὐποτε λήγει κινούμενον, ἀλλὰ καὶ τοῖς ἄλλοις ὅσα κινεῖται τοῦτο πηγὴ καὶ ἀρχὴ κινήσεως· ἀρχὴ δὲ ἀγένητον· ἐξ ἀρχῆς γὰρ ἀνάγκη πᾶν τὸ γιγνόμενον γίγνεσθαι, αὐτὴν δὲ μηδ' ἐξ ἑνός· εἰ γὰρ ἐκ τοῦ ἀρχῆ γίγνοιτο, οὐκ ἂν ἔτι ἀρχὴ γίγνοιτο· ἐπειδὴ δὲ ἀγένητόν ἐστιν, καὶ ἀδιάφθορον αὐτὸ ἀνάγκη εἶναι· ἀρχῆς γὰρ δὴ ἀπολομένης οὔτε αὐτὴ ποτε ἐκ τοῦ οὔτε ἄλλο ἐξ ἐκείνης γενήσεται, εἴπερ ἐξ ἀρχῆς δεῖ τὰ πάντα γίγνεσθαι· οὕτω δὲ κινήσεως μὲν ἀρχὴ τὸ αὐτὸ αὐτὸ κινεῖται· τοῦτο δὲ οὐτ' ἀπόλλυσθαι οὔτε γίγνεσθαι δυνατόν, ἢ πάντα τε οὐρανὸν πᾶσάν τε γῆν εἰς ἓν συμπεσοῦσαν στήναι καὶ μήποτε αὐθις ἔχειν ὅθεν κινήθέντα γενήσεται· ἀθανάτου δὲ πεφασμένου τοῦ ὑφ' ἑαυτοῦ κινούμενου, ψυχῆς οὐσίαν τε καὶ λόγον τοῦτον αὐτόν τις λέγων οὐκ ἀίχυνεῖται· πᾶν γὰρ σῶμα, ὧ μὲν ἐξωθεν τὸ κινεῖσθαι, ἄψυχον, ὧ δὲ ἔνδοθεν αὐτῷ ἐξ αὐτοῦ, ἔμψυχον, ὡς ταύτης οὐσίας φύσεως ψυχῆς· εἰ δ' ἔστιν τοῦτο οὕτως ἔχον, μὴ ἄλλο τι εἶναι τὸ αὐτὸ ἑαυτὸ κινεῖται ἢ ψυχὴν, ἐξ ἀνάγκης ἀγένητόν τε καὶ ἀθάνατον ψυχὴ ἂν εἴη.

¹¹² Mohr (2005), pp. 184-7, apparently thinks that the World Soul is not thought of as originator of motion in the *Timaeus* as there is no evidence for the supposition and the motion of the world is

But the content of the passage is not exhausted by what we said about the nature of the soul. The passage is clearly at odds with the basic presentation of the soul in the *Timaeus* as something created. For Socrates in the *Phaidros* says that there is no birth or death to soul, and that it is immortal whereas the soul is something generated by the Demiurge from formal ingredients. It is put together, a composite being. Moreover although the soul is immortal, its immortality is not absolute, but relies on the goodwill of the Demiurge who will never dissolve it being a benevolent god. Does Plato conflate the Demiurgic Intellect and the World Soul in the *Phaidros*? But this would be a dangerous step as it would destroy the ‘transcendence and externality’ of the demiurgic God to his product, the world.¹¹³ One then would incorporate the god into his creation As the World Soul is thoroughly woven through the World’s Body, this conflation would imply the sacrilegious idea of the weaving of the God into a body. How can Plato make such a contradiction between his cosmological texts? Is it a blunt mistake on his part or something that has to be explained by the change of his views in his life? Moreover the immortality is also his doctrine in the *Phaidon*,¹¹⁴ where its demonstration is based on the Theory of Forms, which differs the two passages, as

provided by the Demiurge, himself (34b). However, Demiurge’s decision as to which of the seven motions he will assign to the World is telling enough. For it is the one most suitable to understanding and knowledge, rotation around one’s own axis in the same place. Hence the World would not receive the motion if it were merely a body, but it is only because of the prominence of the soul that the whole receives the motion. There is thus no real contradiction in saying that the World Soul gives its motion to the World Body. In reality all organizing motion originates from the Demiurge anyway, but that would deny intelligent causality to any other being than the Demiurge. Plato would not have this.

¹¹³ Hackforth (1936), pp. 8-9.

¹¹⁴ *Phaidon*, 107a in Cooper (1997). παντὸς μᾶλλον ἄρα, ἔφη, ὧ Κέβης, ψυχὴ ἀθάνατον καὶ ἀνώλεθρον, καὶ τῷ ὄντι ἔσονται ἡμῶν αἱ ψυχὰι ἐν Αἴδου.

Skemp notices.¹¹⁵ The answer lies in the relative contexts of the two passage though still a matter of dispute among commentators.¹¹⁶ Is the creation account to be taken literally or is it to be read metaphorically? Because the story is a likely one in the *Timaeus* and the account is basically one that targets the realm of Becoming, it should not be taken at its literal meaning, but needs to be interpreted through its metaphorical setting. Plato wants to show the make-up of the soul which will be able to perform the functions he wants it to perform and the account needs to suffice this goal. Hence the contradiction is dissolved when the different context of the *Phaidros* passage is noticed, namely a metaphysical discourse on the soul. However, the *Phaidros* passage completes and enhances the meaning of the World Soul in the cosmology of Plato. The World Soul is the initiator of all motion in the universe.

The notion of the soul as constant self-motion is further developed in the last book of Plato's *Laws*. Here is what the Athenian Stranger is to teach Klinias about the issue:

A. S. So what is the definition of the thing the name of which is 'soul'? Do we have another besides the one just now stated: 'motion capable of moving itself'?

K. Do you claim that the definition 'to move itself' holds for the same being which we all refer to by the name 'soul'?

A. S. I claim this. And if this is so, do we still regret that we have not sufficiently demonstrated that the soul is the same being as the first generation and motion of what exists, what has come to be, and what will be, and further of all their opposites, since it has been shown to be the cause of all change and of motion in all things?

K. No, it has been demonstrated most sufficiently that soul, being the source of motion is the oldest of all things.

¹¹⁵ Skemp (1942), pp. 9-10.

¹¹⁶ See Plato (2000), pp. xxii-xxv.

A. S. So isn't the motion that comes to be in one thing because of another, but that itself never causes anything to move by itself, second, or however many numbers farther down someone would wish to count it, really being a change of soulless body?

K. Correct.

A. S. So we spoke correctly, authoritatively, most truly and perfectly saying that soul has come to be prior to body, while body is second and later, and that soul rules, while body is ruled, according to nature.

K. That is most true.¹¹⁷

The origin of motion was not a problem for the Atomists, Plato's arch-enemies, as they held that the motion of the atoms was a primary condition, and that of the soul was secondary.¹¹⁸ However Plato presented a 'transcendental' argument so to speak to explain how motion is possible in the universe at all. The passage consolidates soul's organic relation with motion as well as reinforcing the priority of the soul over the body, as asserted in the *Timaeus*. It goes even further than the other passages in the *Phaidros* and the *Timaeus* by calling soul as motion (capable of motion) altogether. However there is a harmony in the three works and they supplement each other. The upshot of the passage, hence, is that without the soul the body is motionless.

¹¹⁷ *Laws*, 896a-c in Mayhew (2008). 'Αθηναῖος ὦι δὴ ψυχὴ τοῦνομα, τίς τούτου λόγος; ἔχομεν ἄλλον πλὴν τὸν κινεῖν ῥηθέντα, τὴν δυναμένην αὐτὴν αὐτὴν κινεῖν κινήσιν;

Κλεινίας τὸ ἑαυτὸ κινεῖν φησὶ λόγον ἔχειν τὴν αὐτὴν οὐσίαν, ἥνπερ τοῦνομα ὃ δὴ πάντες ψυχὴν προσαγορεύομεν;

'Αθηναῖος φημί γε· εἰ δ' ἔστι τοῦτο οὕτως ἔχον, ἄρα ἔτι ποθοῦμεν μὴ ἱκανῶς δεδειχθαι ψυχὴν ταῦτόν ὄν καὶ τὴν πρώτην γένεσιν καὶ κινήσιν τῶν τε ὄντων καὶ γεγονότων καὶ ἐσομένων καὶ πάντων αὐτῶν ἐναντίων τούτοις, ἐπειδὴ γε ἀνεφάνη μεταβολῆς τε καὶ κινήσεως ἀπάσης αἰτία ἅπασιν;

Κλεινίας οὐκ, ἀλλὰ ἱκανώτατα δέδεικται ψυχὴ τῶν πάντων πρεσβυτάτη, γενομένη γε ἀρχὴ κινήσεως.

'Αθηναῖος ἄρ' οὐν οὐχ ἡ δι' ἕτερον ἐν ἄλλῳ γιγνομένη κίνησις, αὐτὸ δὲ ἐν αὐτῷ μηδέποτε παρέχουσα κινεῖσθαι μηδέν, δευτέρα τε, καὶ ὁπόσων ἀριθμῶν βούλοιοτο ἂν τις ἀριθμῆιν αὐτὴν πολλοστήν, τοσοῦτων, σώματος οὕσα ὄντως ἀψύχου μεταβολῆς;

Κλεινίας ὀρθῶς.

'Αθηναῖος ὀρθῶς ἄρα καὶ κυρίως ἀληθέστατά τε καὶ τελεώτατα εἰρηκότες ἂν εἶμεν ψυχὴν μὲν προτέρα γεγονέναι σώματος ἡμῖν, σῶμα δὲ δεύτερόν τε καὶ ὕστερον, ψυχῆς ἀρχούσης, ἀρχόμενον κατὰ φύσιν.

Κλεινίας ἀληθέστατα μὲν οὖν.

¹¹⁸ Furlley (1987), pp.175-6.

4.1.3 Doing Astronomy with the World Soul

As Timaeus, himself, is introduced as an astronomer in the dialogue, the *Timaeus* is Plato's important contribution to ancient astronomy, which is yet another instance of the usefulness of the World Soul. Gregory Vlastos, in his *Plato's Universe*, reconstructs the development of astronomy in Plato's times and shows that Plato was well-informed of his contemporary astronomers.¹¹⁹ To demonstrate how the World Soul is what makes Plato's astronomical enterprise important, Vlastos says, "...in creating soul the Demiurge does something which will have vast physical consequences: the self-caused movement of the World soul and the souls of the stars will account for every movement in the heavens: all celestial motion is to be explained as psychokinesis".¹²⁰ We had shown that the creation of the soul was the originator of movement in the first place, as soul was that which moves itself in the *Phaidros* and the *Laws*. But now soul not only explains the origin of motion, but also the motion of the heavenly bodies which are believed to have souls since pre-classical times in Hellas, a Pythagorean traditional belief revived by Plato.¹²¹ Vlastos claims that the astronomy in classical times had been gradually more based on observation rather than speculation and that Plato's theory of the world and the heavens having souls was a most suitable hypothesis to incorporate these new observational data into astronomy. "The creation story in the *Timaeus*, despite its allegorical tincture, attests Plato's assimilation of the results obtained by this science [astronomy] in

¹¹⁹ Vlastos (2005), pp. 23-65.

¹²⁰ Vlastos (2005), p. 31.

¹²¹ Scott (1991), p. 4.

which theory and practice were now successfully interacting”.¹²² The development of observational astronomy before and in Plato’s life time made it possible to identify the planets and Plato incorporated them into his theory. We had discussed how the fixed stars were moved by the motion of the Same whereas the ‘wandering stars’ would be moved by the combined motion of the Same and the Different. This is Plato’s ingenuity. For Vlastos, the essence of the psychogonia of the *Timaeus* where the complicated process of the generation of the soul out of Being, the Same and the Different is explained, is the World Soul’s being a blend of Being and Becoming.¹²³ But more important than that, the composition of the World Soul enables us to make sense of the ‘irrational’ motion of the ‘wandering’ stars. “The conceptual kernel of this hypothesis [of the World Soul] is that the composition of the postulated regular circular motions may account for irregular phenomenal motions. Plato has hit here on a profoundly original and fertile notion – the grand heuristic canon of Greek astronomical theory for half a millennium to come”.¹²⁴ This is the beginning of the idea of ‘saving the phenomena’ (σώζειν τὰ φαινόμενα) in the history of science, the principle of devising theories which will adequately explain the observational data, to understand what seems irrational by rational means. But how did Plato come to present his view? In Plato’s case the irrational belongs to the movements of the planets. But they are heavenly bodies and so have rational souls as well.

¹²² Vlastos (2005), p. 49.

¹²³ Vlastos (2005), p. 31.

¹²⁴ Vlastos (2005), p. 54.

Then why are their motions irrational? This is what Plato explains by his theory of soul and metaphysics. To follow the construction of Vlastos:

Let us look again at this tale, beginning with two of its main theses:

Thesis A. The stars are gods and their motions are psychokinetic.

Thesis B. Stellar motions are circular.

Now these two theses are not only logically distinct – neither, taken by itself, would entail the other – but belong to radically different areas of inquiry. A belongs to theology and speculative metaphysics, B belongs to natural science. Yet Plato undertakes to deduce B from A. He does so by compounding A with two further theses of the same ilk.

Thesis C. The souls of the star-gods are perfectly rational.

Thesis D. All perfectly rational motion is circular.¹²⁵

As clearly demonstrated in Vlastos' reconstruction, we see how physics and metaphysics work in harmony so as to produce fruitful results in the history of astronomy in Plato's *Timaeus*. From the attribution of rational souls to stars, whose motion can only be rational, Plato bequeaths to the subsequent generations the idea to construct regular circular motions to explain what seem to be irregular motions of the heavenly bodies.¹²⁶ This is the ground-clearing work that Plato did for later generations of astronomy, which culminates in the work of Ptolemaios in Alexandria. In comparison with the Democritean astronomy which sought physical causes for celestial motions, Plato's astronomy can be called an advance.¹²⁷ And this advance is mainly due to the introduction of the World Soul into his system.

¹²⁵ Vlastos (2005), p. 51.

¹²⁶ Wright (1995), p.138. "The awareness of such a cycle [the Great Year in which a planet completes its cycle with respect to the sphere of the fixed stars in the background] for the totality of the planets on the pattern of those for the moon and sun is very old, going back to observations recorded in ancient Egypt and Mesopotamia, but the principles were first spelled out in the extant texts by Plato in the *Timaeus*".

¹²⁷ Vlastos (2005), pp. 63-5.

The explanation for the existence of motion in general and the account for the celestial motion in particular are the major contributions of Plato to cosmological thinking. The early Presocratics till Parmenides took motion for granted and Parmenides brought about the impossibility of positing motion in a real sense. The later Presocratics did not provide sufficient explanation to cosmological motion except in an analogical manner. Plato wanted neither Empedocles' Love nor the void that the Atomists introduced to explain for motion, but Anaxagoras' Nous seemed to be the most appropriate for him. But this still is in analogical terms and whereas Nous in Anaxagoras is the initiator of motion, after the Nous all other motion is explained on material terms, as we see in Socrates' criticism thereof discussed above. No *kosmos* can evolve from such a conception according to Plato. The regular, circular motion of the heavenly bodies was suggested by the interaction of physical and non-physical principles in Plato's theory. Hence the World Soul accounts for why there is motion in the universe at all and why this motion is an orderly motion to bring forth a *kosmos* into being, paving the way for scientific astronomy to flourish.

4.2 The World-Soul as a Tool in Plato's Philosophy of Science

Vlastos' view about the kernel of the psychogony in Plato's *Timaeus* was given above. For him the most important part of the narration about the generation of the World Soul was that the soul had an ontological place in between Being and Becoming. The soul both partakes of the unchanging and intelligible realm of Ideas and the changing and sensible world of Becoming. Actually Plato presents us with many entities that have an ambiguous status with respect to their 'homes'.

The *Timaeus* might be that text of Plato where a more articulated picture is formed apart from the two-world ontology, with many entities having a share of now one world, now the other. Daryl Tress thinks that the dialogue is more about the relations between the two realms than a mere cosmology.¹²⁸ She sees these intermediary entities as ‘bonds that bridge the *chorismos*’, that is, the strict separation of intelligible Forms and sensible particulars.¹²⁹ These intermediary entities are the Demiurge, the *psyche*, the receptacle and the mathematical figures in the narration about the causality of necessity, and marrow where the soul and body are united according to Timaeus. The key distinction in the passage about the generation of the soul for this reading is the division of each of the entities which make up the soul (Being, the Same, and the Different) into sections, indivisible and divisible among bodies. Tress does not argue sufficiently for her position though it is a debate whether that portion of Being, the Same and the Different which is divisible among bodies implies the world of Becoming.¹³⁰ But in any case, it is more plausible to think that way and the World Soul is the intermediary between the world of Being and the World of Becoming.

The idea that the World Soul works as a bridge between the World of Ideas and the World of Sense is of paramount importance for Plato’s science. When we think of what kind of physics such an understanding could suggest, we come across one of Plato’s major achievements in the history of science, namely a mathematical physics. Plato’s physics is highly liable to axiomatization. This was

¹²⁸ Tress (1999), pp. 135-162.

¹²⁹ *ibid.* p.144.

¹³⁰ Grube (1932), pp. 80-2.

even achieved by Luc Brisson and Walter Meyerstein in their *Inventing the Universe* and by Thomas K. Johansen.¹³¹ Looking at the other cosmological texts in Plato's time, such as those of the Atomists, we hardly get any interaction between mathematics and physics in such a way that Plato contrived it. The origin of the idea, naturally, belongs to the Pythagoreans but the Pythagoreans were not basically intent on the natural world proper but sought mathematical relations for their own sake. Mathematics does not play a major role in the Atomists' system. Their physics is based on the motion and interaction of atoms which are described in qualitative terms rather than quantitative, like weight or shape. But Plato both incorporates atoms and the four element theory and tries to develop the interaction and motion of these atoms through mathematical means. However for this to be possible, it has to be shown in the first place that mathematics is applicable to the world of Becoming. And this is where we find the all too necessary introduction of the World Soul. This introduction made possible the interaction between the 'mathematicals' and the objects of the sensible world. It was mainly through infusing the World Body with an intelligible World Soul that the quantification of the natural world was possible.¹³² For the World Soul is produced in mathematical harmony and is the reason why the astronomical entities move in a rational, calculable manner. Plato's World-Soul hence brings forth an idea of nature that is at once intelligible and sensible. What we maintain by sense, we can understand through our intelligence, which gives physics firm ground to develop. The

¹³¹ Brisson and Meyerstein (1995); Johansen (2008).

¹³² Brisson (2006), pp. 212-231, traces the explanatory power of Plato's mathematics in all the areas of study of the natural world, from astronomy to cosmology to physics to biology.

regularity of the motions of bodies and the principle of the uniformity of nature are provided with the idea of the World-Soul, an intermediary entity that connects the world of Forms and that of sense, attributing the latter intelligibility, regularity and uniformity through the former.

CHAPTER V

CONCLUSION:

THE USES OF THE WORLD SOUL IN PLATO' *TIMAEUS*

5.1 Plato and the History of Ancient Greek Science

Natural philosophy is among the least appreciated aspects of Plato's philosophy due to the commonplace that for him the eternal world of Forms are more important for him than the sensible world of particulars, the subject matter of natural philosophy. In accordance with this distorted view Plato does not traditionally receive a well appreciation in accounts of ancient natural philosophy or science. A couple of examples will suffice to show how common this view is among the historians of ancient science. A. E. Taylor, in what is one of the first modern commentaries on Plato's *Timaeus*, relegates the contents of the dialogue to no more than a blend of Empedoclean biology with Pythagorean mathematics.¹³³ One of the classical historians of science, Sambursky claims that "[t]he theory of Ideas...did not regard experiment as a means to the desired goal. The great popularity of this philosophy of Plato's, which so deplorably helped to delay the synthesis of the experimental method with mathematics, is also to be largely explained by the Greek tendency to overestimate the power of deduction

¹³³ Taylor (1928), p.11.

to such an extent that induction seemed to become wholly unnecessary”.¹³⁴ Sambursky criticizes Plato’s attitude against experiment but in this he argues anachronically as if the tools to make experiments were as developed as the modern times when the experimental method did prevail the natural sciences. Given the state of the tools to make experiments in Plato’s time, he cannot overemphasize that method of making knowledge. In Plato’s time, the most advanced exact science that concerned natural bodies was astronomy, which was considered a mathematical science based on the idea of deduction. However, even in this case Plato’s emphasis on the importance of observational data is mentioned above in the discussion about World Soul’s relation to the heavenly bodies. To conclude this paragraph with a typical utterance in the same line of reasoning: “Even the most apologetic Platonist will not stand behind Plato’s *Timaeus* as a work of high scientific caliber, although it is true that some of the ideas therein were not without their influence on Aristotle and later authors”.¹³⁵ The quote speaks for itself.

The tone of underestimation of Plato’s place in the history of science lightens as we move in the course of 20th century and in his prominent survey on Hellenic Science Lloyd says: “Plato’s relevance to our study lies, then, less in the particular scientific theories that he put forward than in what we may call his philosophy of science...”¹³⁶ Although we have come to give due prominence for the role of the World Soul in Plato’s philosophy of science, we also maintained

¹³⁴ Sambursky (1956), p. 45.

¹³⁵ Clagett (1955), p.64.

¹³⁶ Lloyd (1970), p. 67.

his contribution to the theory of celestial motion to find that Plato's natural philosophy was well integrated with the contemporary developments in astronomy to which he thus contributed. Among many other theories of his in the field of natural philosophy that we did not mention are the theory of elements and the 'chemistry' of their interrelations, the theory of human body including his discussion of medical diseases, the theory of perception and human psychology, covering almost every field of natural inquiry. Lloyd fixes the ferocious attitude to Plato by the historians of science and tried to make for views similar to Clagett's kind, "Plato was a great philosopher, but in the history of experimental science he must be counted as a disaster"¹³⁷ and finds Plato's aim to 'reveal the operations of reasons in the world of becoming' as a 'serious and worthwhile purpose'.¹³⁸ But Vlastos, whose work (1975) we mentioned above belongs to the primary occurrences of a welcoming attitude towards Plato's place in the history of ancient science. Among other work sympathetic to Plato's science are those by Luc Brisson, T. K. Johansen, and Andrew Gregory.¹³⁹ What emerges in the picture we have drawn concerning Plato's concept of the World Soul is a step in this positive apprehension of his work in the area of natural inquiry.

¹³⁷ Dampier-Wetham, as quoted in Lloyd (1968), p. 78.

¹³⁸ *ibid.* p. 84.

¹³⁹ See Brisson (1995) and (1974); Johansen (2004); Gregory (2000).

5.2 The World Soul and the Interpretation of the *Timaeus*

Although the general attitude lately has been sympathetic to Plato's philosophy of nature and science, it is not possible to find a comprehensive appreciation of the role World Soul plays in these areas of Plato's philosophy.¹⁴⁰ Unlike a positivistic attitude that would dismiss the concept of the World Soul as a remnant from unscientific animism, the ancients, uncontaminated with such prejudices, did recognize the importance of the concept in Plato's philosophy in general and natural philosophy in particular. The *Timaeus* was the text of Plato that received greatest number of commentaries in antiquity from all sides of the philosophical spectrum but mainly from Platonists. It is a text of Plato that Aristotle takes most seriously and the disagreements taking place around the text (among them, disagreements on the World Soul as well) shaped the course of the Academy after Plato's death, leading to the succession of Speusippus and Xenocrates as heads of the Academy urging Aristotle to leave the institution and to set sail eastward to Assos and Mytilene.¹⁴¹ Ploutarkhos, a Middle Platonist, has written a substantial treatise titled "On the Generation of the Soul in the *Timaeus*".¹⁴² The World Soul is received as a prominent concept in Plotinos' *Enneads*, and there is further discussion on the issue in Late Platonists, like Proclus, who wrote the most substantial ancient commentary on the *Timaeus* as

¹⁴⁰ In addition to the literature in the previous note, see Cornford (1936); Carone (2005); Hankinson (2004), pp. 84-124.

¹⁴¹ Dillon, (2003), p.80.

¹⁴² Cherniss (1976).

well as by the physical commentaries of Philoponos, Simplicios, and the Latin commentary by Calcidius.

One of the main discussions in these commentaries is about the way to interpret the dialogue. The debate which continues to this day originated as to whether to read the *Timaeus*, the ‘likely story’ of the generation of the world, in a metaphorical way or literally. The question divided the interpreters into two camps; the followers of the literal reading beginning with Aristotle, including Ploutarkhos in the ancient world and Vlastos and Hackforth in the modern; and the metaphorical readers beginning with Speusippus and Xenocrates in the ancient world, also including Proclus and in the modern world Taylor and Cornford.¹⁴³ The issue arises from Plato’s own description of the cosmological narration as a ‘likely story’ (ἐικῶς μυθός) or ‘likely account’ (ἐικῶς λογός) and about how to interpret this description. Is Plato claiming that God really made the world and all the things in it at a certain point in time or is the narration a story that explains in a mythological way the ‘logical’ relations between entities in the *kosmos*, as befits a narration on the world of becoming? The issue of interpretation thus is a deep abyss, and is not an easy conflict to resolve. However the discussion of the World Soul can help us to take one side in the debate rather than the other. For the soul is plainly and clearly held to be uncreated and undissolvable in the passage of the *Phaidros* we discussed, whereas the *Timaeus* relegates it as the jewel of the generated things, the most beautiful work of creation of the Demiurge. If we do not want to dismiss Plato as a ‘drunken sophist’ as Ploutarkhos claims,¹⁴⁴ who

¹⁴³ Zeyl in Plato (2000), p. xxi.

¹⁴⁴ Plutarch, On the Creation of the Soul in Plato’s *Timaeus*, (1016a) in Cherniss (1976).

says one thing here and the other there, we have to explain the relation of texts. Though the adherents to the literal view point to a change in Plato's views on the soul,¹⁴⁵ it is a more plausible interpretation to think that the generation is not literally meant. Though Plato thinks that the soul is generated in the *Timaeus*, it does not mean that it is made at a certain point in time, with a particular mixing bowl as regards the trade of the craftsman god but to think it as showing the relations of certain Forms with one another, the Forms of Being, of Sameness and of Difference and to show how these forms participate in the world of Becoming to cause the regular, uniform, and the intelligible motion in the universe. Therefore a sound appreciation of the account of the World Soul in the *Timaeus* also points to a solution to the debate of whether to take the 'likely story/account' seriously and read the dialogue metaphorically or to read it literally.

5.3 Concluding Remarks

The positive attitude to Plato's place in ancient science is incorporated into and further strengthened by the account we have given of the World Soul in the *Timaeus*. We began with a valid question asked by Aristotle, the question of to what extent the study of the soul was allowed in natural inquiry. Aristotle's concern was to make the eternal intelligible character of the soul out of the inquiry into nature so as to help in departmentalizing sciences by cutting off their premises from each other. As life is a major part of scientific inquiry, Aristotle would allow only those portions of the soul that were necessary for life into his

¹⁴⁵ Vlastos (1995b), pp. 414-5.

explanations, to keep the noetic part out. But, as Solmsen says, "...it was an innovation of the greatest consequence that Plato made Mind (*nous*) a part of the psyche" among which consequences are some of the foundations of Plato's science.¹⁴⁶

We have tried to follow the incorporation into the soul of many elements in the theories of the Presocratics, and showed how from an ambiguous meager concept that has some relations with life in Homer's epic poems, the functions of knowledge, perception, emotion and motion were thoroughly built up in the Presocratic theories to be subsumed under the notion of *psykhe*. This concept was what Plato had found before him as raw material and what he wove into the parts and details of his cosmology (and his ethical and political philosophy) as the World Soul was itself woven into the World Body. However no matter what their theories were, the Presocratics almost uniformly held that the soul was something bodily. By denying this, Plato showed the intelligibility of the bodily, hence the possibility of natural philosophy. For the Becoming world itself cannot explain for the uniformity and regularity that is found in itself, nor can the world of Being by itself because it is not present in the bodily. Only an immaterial entity which stands in between the World of Becoming and the World of Being can have such a function. In the field of natural philosophy, the World Soul helped Plato to explain the origin of all motion in the universe and warranted the intelligibility, regularity and the uniformity of the motions of the celestial spheres in the heavens. In the field of philosophy of nature, by bridging the two worlds, it enabled the world of Becoming to be accountable in terms of the world of Being,

¹⁴⁶ Solmsen (1983), p. 361.

i.e. of Numbers and Ideas. And the mathematization of the physical inquiry can rightly be claimed a major contribution of Platonic cosmology to the history of science, with respect to rival views in his own time. Conforming to the dual status it has with respect to Being and Becoming, the World Soul functions both as *explanans* and as *explanandum* in Plato's natural philosophy, and hence legitimates its own status and that of the world of Becoming as an object of inquiry in the field of natural philosophy.

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