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## THE MYTH OF ER (PLATO, *REPUBLIC*, 616B).

PLATO *Rep.* X. 616B. ἐπειδὴ δὲ τοῖς ἐν τῷ λειμῶνι ἐκάστοις ἑπτὰ ἡμέραι γένοιντο, ἀναστάντας ἐντεῦθεν δεῖν τῇ ὁγδόῃ πορεύεσθαι, καὶ ἀφικνεῖσθαι τεταρταίους ὅθεν καθορᾶν ἄνωθεν διὰ παντὸς τοῦ οὐρανοῦ καὶ γῆς τεταμένον φῶς εὐθύ, οἷον κίονα, μάλιστα τῇ ἱριδι προσφερῇ,<sup>1</sup> λαμπρότερον δὲ καὶ καθαρώτερον· εἰς δ' ἀφικέσθαι προελθόντες ἡμερησίαν ὁδόν, καὶ ἰδεῖν αὐτόθι κατὰ μέσον τὸ φῶς ἐκ τοῦ οὐρανοῦ τὰ ἄκρα αὐτοῦ τῶν δεσμῶν τεταμένα—εἶναι γὰρ τοῦτο τὸ φῶς σύνδεσμον τοῦ οὐρανοῦ, οἷον τὰ ὑποζώματα τῶν τριήρων, οὕτω πᾶσαν συνέχον τὴν περιφοράν—ἐκ δὲ τῶν ἄκρων τεταμένον Ἀνάγκης ἄτρακτον, etc.

The passage occurs in a myth of the fate of the soul after death, which Plato in this dialogue puts into the mouth of Er, the son of Armenios, a Pamphylian. Er has already described the return of the souls to the judgement-place (ὁ λειμῶν)<sup>2</sup> from the place of reward in Heaven or the place of punishment in Hell and their resting together while they recounted their experiences to each other. He here proceeds to tell how on the eighth day they all set out again from the judgement-place with him in their company and how he shared with them, in the place to which they came, that vision of the workings of the universe which it was given to them to behold before their rebirth in mortal bodies. It is with the light which formed a part of the vision that the present article proposes to deal.

'They arrived on the fourth day,' Plato says, 'at a place<sup>3</sup> from which they

<sup>1</sup> Adam, *Republic of Plato* (1902), adopts προσφερές, the reading of the second hand in A.

<sup>2</sup> Τὸν λειμῶνα 614E and τῷ λειμῶνι 616B both refer to the same place as is described at 614C as τόπον τινὰ δαιμόνιον and the place of judgement.

<sup>3</sup> The position of the souls in the universe when they see the light first, and their position again when at the end of a day's journey they are κατὰ μέσον τὸ φῶς, are vexed questions. Adam locating them on the true surface of the earth when they first see the light (note on 616B 11), then plunges them into subterranean regions at the very centre of the earth when they are said to be κατὰ μέσον τὸ φῶς. His

reasons for doing so are given in notes on 616B 13, 621B 10, and App. VI. to Bk. X. But it is to be noted that the words κατὰ μέσον τὸ φῶς need not be pressed so as to make the souls come to the centre of the earth when they come to the centre of the light. 'The middle of the light' may mean the point at which the shaft of light pierces the surface of the earth, the centre of the universe (Stewart, *Myths of Plato*, pp. 152 and 167); or Plato's words may, I think, be interpreted to mean simply that the souls enter the light and so are in the midst of it (cf. the interpretation of Sir T. Heath, *Aristarchus of Samos*, p. 152). Neither need the fact that the souls shoot

saw stretching from above<sup>1</sup> through all the heaven and the earth a straight light, like a pillar, which resembled the rainbow more than anything else, but was brighter and purer. After having gone forward a day's journey they reached it, and there in the middle of the light saw stretching from heaven the extremities of its bands<sup>2</sup>—for this light is a band of heaven, holding all the revolving heaven together, like the undergirders of triremes—and they saw stretching from these extremities a spindle of Necessity,' etc.

In interpreting the passage I accept definitely, for the following reasons, the conclusion of Adam that the light has two parts, a straight and a circular.

1. The words *φῶς εὐθύ, οἶον κίονα*, seem conclusive for the straight part<sup>3</sup> (the comparison with the rainbow has relation not to shape but to brightness and colour). Again Adam is undoubtedly right in his interpretation of *διὰ παντὸς τοῦ οὐρανοῦ καὶ γῆς τεταμένον*.<sup>4</sup> There is no mention of the earth as a planet in the description of the planetary motions which follows our passage, and it is thus clear that there is no reason for supposing that Plato abandoned here the conception found in the *Phaedo* and *Timaeus* of a geocentric universe. The natural interpretation then of the words 'stretching through all the heaven and earth' is that the light runs diametrically through the spherical heaven and pierces its centre, the earth. This natural interpretation is supported by comparison of Plato's words here with the passage in *Timaeus* 40B *γῆν δὲ τροφὸν μὲν ἡμετέραν, ἰλλομένην δὲ περὶ τὸν διὰ παντὸς πόλον τεταμένον*, where *διὰ παντὸς . . . τεταμένον* expresses the manner in which the axis runs diametrically through the celestial sphere.<sup>5</sup> The similarity of wording in the two passages is noticeable, and it seems in the highest degree probable that in the passage in the *Republic* Plato meant the straight light to represent the axis of the celestial sphere.<sup>6</sup> Among the ancient commentators

upwards to birth (621B) imply that they saw the vision of Ananke's spindle from a subterranean region. *ἄνω* is explicable if it is assumed with Professor Stewart (*o.c.*, pp. 111, 165, 168) that the souls were moving on the surface of the earth in the *antipodal* hemisphere. I think that Stewart and Heath are undoubtedly right in arguing against a subterranean position for the souls when they see the vision. I am not absolutely certain, however, that the souls remain always on the surface of the earth in the antipodal hemisphere. If *κατὰ μέσον τὸ φῶς* simply means 'in the light,' it is conceivable that they advanced to celestial regions.

<sup>1</sup> It is possible to take *ἄνωθεν* not with *τεταμένον* but with *καθορᾶν* (see Adam, note *ad loc.*)—i.e. 'they saw from above stretching through all the heaven and earth.' This would make the point of view of the souls definitely celestial.

<sup>2</sup> *Αὐτοῦ* is ambiguous as Adam points out (note *ad loc.*), and may refer either to *φῶς* or to *οὐρανοῦ*. I take the pronoun as referring to *φῶς*. The general sense of the passage is quite clear, as Adam points out: for the next sentence clearly shows that it is the heaven that is bound and

that the light is a band thereof. But if *αὐτοῦ* refers to *οὐρανοῦ*, the meaning may be that the heaven is bound by many chains, of which the light is one (should the prefix in *σύνδεσμον* be pressed?).

<sup>3</sup> The existence of a straight part of the light was denied by Boeckh (*Kleine Schriften* III., pp. 297 sqq.) and by Martin (*Mémoires de l'Académie des Inscriptions et Belles Lettres* XXX., pp. 93 sqq.). Boeckh held that the souls from a place outside the universe saw in the distance a half-circle of the Milky Way, which because of their position appeared to them straight like a pillar; Martin that the souls saw above their heads a half-circle of the Milky Way, but *thought* that it was really a straight light like a pillar, accounting for the dip at each horizon as an effect of perspective (!). But there is nothing in Plato's words which would lead us to believe that the appearance was different from the reality, and both scholars find difficulty in dealing with *διὰ παντὸς τοῦ οὐρανοῦ καὶ γῆς τεταμένον*.

<sup>4</sup> Note on 616B 11.

<sup>5</sup> See Adam in the note cited above.

<sup>6</sup> Adam, note on 616C 14 *sub fin.*

Theon of Smyrna<sup>1</sup> held this opinion; Proclus also in his commentary on the *Republic*<sup>2</sup> records it as having been the view of some of his predecessors, and in the confused notice which Suidas has under the heading *τεταμένον φῶς εὐθὺ ὁλον κίονα* occur the words, *τινὲς τὸν ἄξονα τοῦ κόσμου. οἱ δὲ κυλινδρὸν τινα πυρὸς αἰθερίου περὶ τὸν ἄξονα*. It is hardly necessary to say that Plato *quâ* mathematician rightly conceived of the axis of the celestial sphere as an imaginary line and not as a material body whether of light stuff or any other stuff. But this is no real objection to his representing the axis otherwise in a passage which is not scientific exposition but myth, where he has a particular poetic and imaginative purpose in view.<sup>3</sup>

2. The case for a circular part of the light is far more complicated. Plato says that the light is a band of heaven and holds together all the revolving heaven. These words, it is to be noted, do not *in themselves* imply a circular band. It might be held with good reason that the straight light running axis-wise from side to side of the sphere of the universe could have been regarded as performing the function of binding. A parallel could be found in Proclus (in *Tim.* IV. 282A), where the axis is described as *συνεκτικὴν τοῦ ὅλου κόσμου*, and this might again be compared with the Pseudo-Aristotelian *περὶ κόσμου* c. 2, where the poles are said to hold together the sphere (*συνέχοντα τὴν σφαῖραν*). The case for the circular part of the light really turns upon the simile used by Plato, in which he compares the function of the light in binding together the heaven with the function performed by 'the undergirders of triremes' (*τὰ ὑποζώματα τῶν τριήρων*).

Unfortunately the evidence for the nature of *ὑποζώματα* of triremes is not as satisfactory as could be desired. It is established that they were ropes of some kind,<sup>4</sup> but their position upon the vessel and the function which they performed is still disputed. The most generally accepted view is that which is put forward by Mr. Cecil Torr, *Ancient Ships*<sup>5</sup> and by Adam in his notes on our passage of the *Republic*. They hold that the hypozomata of triremes were cables which ran round the hull of the vessel outside in a horizontal direction from stem to stern and back again, forming a complete girdle and serving to keep the timbers firmly knit together in heavy seas or under the shock of the enemy's ram. This view has recently been questioned by Mr. Frank Brewster,<sup>6</sup>

<sup>1</sup> P. 143 (Hiller).

<sup>2</sup> II., p. 199, 31 sqq. (Kroll).

<sup>3</sup> Dr. A. B. Cook also reminds me that a world axis which has breadth need not be surprising in a myth which is steeped in Pythagorean doctrine, seeing that the Pythagoreans thought of lines as having breadth, just as they thought of points as having magnitude (Burnet, *Early Greek Philosophy*<sup>3</sup>, p. 290).

<sup>4</sup> Some of the ancients supposed that the *ὑποζώματα* were wooden planks (Procl. in *Rep.* Comm. II., p. 200, 25 Kroll and scholium on this passage, p. 381; cf. scholium on Aristophanes, *Knights* 279, repeated under heading *ὑποζώματα* in Suidas). But it is proved that the *ὑποζώματα* were ropes not planks by the fact

that they occur among the *σκένη κρεμαστά*, detachable parts, as opposed to the *σκένη ξύλινα*, wooden gear, in inscriptions giving inventories of triremes and their gear belonging to the Peiraeus. See C. Torr, *Ancient Ships*, p. 41, note 100 and references given in his note 103 on p. 42.

<sup>5</sup> Pp. 41-42. The view of Adam and Torr is also maintained by Boeckh, *Urkunden über das Seewesen des Attischen Staates*, pp. 133-138; Breusing, *Die Nautik der Alten*, pp. 170-184; Cartault, *La Trière Athénienne*, p. 56; Graser, *De Veterum Re Nauali*, § 70.

<sup>6</sup> *Harvard Studies in Classical Philology* XXXIV., pp. 63 sqq.: 'The Hypozomata of Ancient Ships.' The suggestion had already been put forward by Warre, *J.H.S.* V., p. 216.

who puts forward arguments in favour of the theory that the *ὑπόζωμα* was a stout cable stretched down the middle of the ship inside from stem to stern and intended to keep up bow and stern and to prevent the ship from 'hogging.' Such a rope truss is to be seen in pictures of Egyptian ships of 1250 B.C.; it runs down the middle of the ship upon a series of high supports or crutches, and at the stem and stern, which it is its function to keep up, it appears to be fastened to a set of smaller ropes which pass under the keel.<sup>1</sup> Mr. Brewster's view has very great attractions for anyone who is interested in the light of the Myth of Er; for the straight truss running amidships would correspond exactly with the straight light running axis-wise, and it would be possible to interpret the words *εἶναι γὰρ τοῦτο τὸ φῶς σύνδεσμον τοῦ οὐρανοῦ* as indicating that the column of light by spanning the universe held it together. But there is one serious difficulty which Mr. Brewster does not face. If the rope truss of the kind he describes was used on Greek ships, could it ever have been called an *undergirder* (*ὑπὸ ζῶμα*)? The name is quite inappropriate to it,<sup>2</sup> for in the pictures we have of it it occupies a position high up in the ship above the heads of the rowers. This seems the fatal objection to Mr. Brewster's view, and for that reason it is preferable to retain the view of Torr and Adam, which is not open to the same objection,<sup>3</sup> and while admitting that the device described by Mr. Brewster might have been employed on Greek ships,<sup>4</sup> to hold that the *ὑποζώματα* of triremes were not trusses of this kind but cables encircling the hull of the ship on the outside and running in the horizontal direction from stem to stern.<sup>5</sup>

<sup>1</sup> See Cecil Torr, *Ancient Ships*, Plate I., Nos. 4 and 5.

<sup>2</sup> The fact that the pull was carried down to the keel by a device such as that of the smaller ropes passed under the keel at stem and stern in the Egyptian ships could hardly justify the name, I think.

<sup>3</sup> For the *ὑποζώματα*, according to this view, are *undergirders* in the sense that they occupied a place on the lower part of the outside of the ship, under the walls of the ship where they projected, where the structure began to narrow downwards towards the keel. Cf. Graser, *o.c.*, § 82.

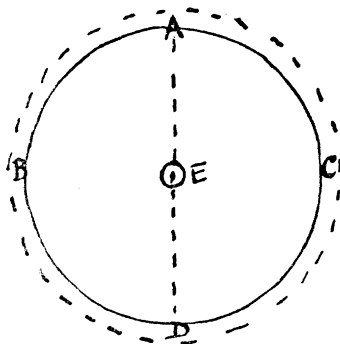
<sup>4</sup> Mr. Torr, however, holds that this rope truss would have been unnecessary on Greek or Roman war-ships, 'which had decking enough to hold the stem and stern together' (*o.c.*, p. 42).

<sup>5</sup> Space does not allow of the detailed consideration of the evidence on which the generally accepted view is based. It may be briefly indicated here: (i.) There is the bronze relief of the forepart of a trireme, of which Adam gives a photograph (*o.c.*, Vol. II., p. 443). Some scholars have, however, supposed that the horizontal bands encircling the prow of this ship and interpreted by Adam as hypozomata are mere ornaments. (ii.) The literary evidence is supplied by Athenaeus V. 37. 203E sqq., and by a comparison of Vitruvius X. 15. 6 with Athenaeus

Mechanicus, p. 6. The *Τεσσαρακοντῆρης ναὺς* described in Athenaeus V. 203E had a length of 280 cubits and a breadth of 38 cubits, and it took 12 hypozomata of 600 cubits length each. It is significant that  $2 \times 280 + 38$  is roughly equivalent to 600, and we have thus an indication that hypozomata encircled galleys from stem to stern. The battering-ram described in the Vitruvius passage was a long beam of timber tapering to a head or rostrum of hard iron. Lengthwise from the rostrum to the other extremity of the beam were stretched three ropes eight fingers thick 'ita religati quemadmodum naues a puppi ad proram continentur.' It is significant that Athenaeus Mechanicus in his description of the same ram says: *ὑποζώννυνται δὲ ὅλος ὁ κριός ὀπλοῖς ὀκταδακτύλοις τριῶν*. For Mr. Brewster's criticism of the usual interpretation of these passages see his article referred to above.

The question of 'frapping'—i.e. passing a cable vertically under the hull of a ship—has been considered in relation to the problem of the nature of *ὑποζώματα*; but it is rightly urged, e.g. by Adam, that while 'frapping' was undoubtedly known to the ancients, (*ὑποζωννύοντες* in *Acts* XXVII. 17 probably refers to a device of this kind), it was a device employed in an emergency, while the *ὑποζώματα* of triremes were part of the regular equipment of the vessels. Cf. the arguments adduced by Breusing, *o.c.*, pp. 172 sqq.

Since then the light is said to hold together the heavens in the manner of the undergirders of triremes and these, as has been shown, held the trireme together by forming a continuous girdle around its hull on the outside, the light must be regarded as encircling the heavens on the outside and holding the celestial sphere together in that way. Plato appears all the time to be speaking of one and the same light, but it seems inevitable to conclude, in spite of his lack of explicitness, that the light had at any rate two *parts*, a straight and a circular. With regard to the existence of a circular part to the light this conclusion is further supported by the fact that the light was interpreted by some of the ancients themselves as being the Milky Way,<sup>1</sup> and in thus assigning to the light both a straight part running axis-wise through the heavens and a circular part forming a periphery the two threads of the ancient tradition are united.<sup>2</sup>



If then in the above rough diagram the circle ABDC may be regarded as representing the celestial sphere and the small circle E the earth, the dotted line, which both encircles the sphere and forms its diameter, will represent the light. 'The ends of its bands' (*τὰ ἄκρα αὐτοῦ τῶν δεσμῶν*)—that is, the ends of its circular portion, of the band which embraces the circumference of the sphere—may be regarded as placed at A, the pole of the sphere which is visible to the souls in the hemisphere in which they are.<sup>3</sup> From this pole—that is, in Plato's language, from the ends of the bands—is extended Necessity's spindle, the shaft of which again, like the column of light, represents the axis of the universe.

Adam, with whose account of the shape and position of the light I have shown my agreement, says in his note on 616B 14 (*sub fin.*): 'I have found no parallel in ancient astronomical theories to this conception of a light stretching from pole to pole' (i.e. the straight part of the light). 'The curved part of the

<sup>1</sup> Proclus, *In Remp. Comm.* II., p. 194, 19 sqq. (Kroll), gives it as the opinion of some of his predecessors that the light was meant to represent the Milky Way or the circle of the Zodiac. One of these was Numenius of Apamea, see p. 130. It seems probable from a consideration of the *Somnium Scipionis* (Cic. *de Rep.* VI. 16) that Cicero or his authority interpreted Plato's light

as the Milky Way.

<sup>2</sup> See above for ancient opinions that the light represented the axis of the cosmos.

<sup>3</sup> Aliter Adam, for whom *τὰ ἄκρα τῶν δεσμῶν* come at the centre of the earth (note on 616C 17). But 'the ends of its bands' may be interpreted as the ends of the binding—that is, the circular—portion of the light, and so placed at the pole.

light is no doubt suggested by the Milky Way, which was regarded by the Pythagoreans as either identical with, or an emanation from, the circle of fire which, according to them, held the universe together.<sup>1</sup> It will be my object in the present article to show that the clue to Plato's picture of the light, with both its straight and its curved part, is to be found in Pythagorean doctrine, in so far as that doctrine combined the notion of fire at the centre of the universe with the notion of fire encircling and girdling the sphere of the universe. The myth of Er is full of ideas drawn from Orphic-Pythagorean sources, and the comparison of the light to the hypozomata of triremes suggests that at this particular point Plato had Pythagorean ideas in mind. For the comparison of the circular part of the light to hypozomata of triremes implies the comparison of the heavens or the universe to a ship, and this is known to have been a Pythagorean image. It seems probable that they used the word *ὀλκάς* (merchant-ship) to denote the sphere of the heavens or the universe,<sup>2</sup> and they undoubtedly compared their central fire to the keel of a ship (*τρόπις*).<sup>3</sup> In seeking an explanation of the light in Pythagorean doctrine we shall then be further following the clue given in the words *τὰ ὑποζώματα τῶν τριήρων*.

With regard to the Pythagorean central fire the question that first occurs is this: 'Is the doctrine of a central fire compatible with the doctrine of a geocentric universe, and were the two doctrines in fact combined in early Pythagoreanism?' Professor Burnet has clearly shown<sup>4</sup> that the early Pythagorean teachers, up to and including Philolaos himself, regarded the universe as geocentric, maintaining the doctrine of a spherical earth in equilibrium in the middle of the cosmos. The system of the universe ascribed to the Pythagoreans by Aristotle,<sup>5</sup> in which the middle of the cosmos is occupied by the central fire and the earth becomes one of the planets and revolves with them and the antichthon around the central fire, was a later theory of the school. But while this conclusion of Professor Burnet may be accepted, it is nevertheless possible to show, I think, that the doctrine of the

<sup>1</sup> Cf. Zeller, *Die Philosophie der Griechen*<sup>5</sup> I, p. 435, note 2.

<sup>2</sup> [Philolaos], fr. 12 (Diels, *F.V.S.*<sup>3</sup> 32B 12), *καὶ τὰ μὲν τὰς σφαῖρας σώματα πέντε ἐντί, τὰ ἐν τῇ σφαίρᾳ πῦρ <καὶ> ὕδωρ καὶ γᾶ καὶ ἀήρ, καὶ ὁ τὰς σφαῖρας ὀλκάς, πέμπτον*. The so-called fragments of Philolaos and the opinions attributed to him have, of course, to be used with great caution for evidence of early Pythagorean doctrine. But the word *ὀλκάς* may safely be said to be a trace of very ancient Pythagorean terminology. See Burnet, *E.G.P.*<sup>3</sup>, p. 293. He interprets *σώματα* in this passage as = regular solids and the fifth *σῶμα* as the dodecahedron, which, being used for the construction of the whole universe (Plato, *Tim.* 55c), is thus termed the 'hull of the sphere.' Gundermann, *Rhein. Mus.* N.F. LX., p. 145, explains *σώματα* as 'bodies' in the sense of 'elements,' and the fifth element, which is the ship of the sphere, is identified by him with *αἰθήρ*

(cf. Diels, *F.V.S.*<sup>3</sup>, on [Philolaos] fr. 12). The significance of the term *ὀλκάς* is not affected by the difference of opinion about the exact interpretation of the passage.

<sup>3</sup> Aet. II. 4. 15 (*F.V.S.*<sup>3</sup> 32A 17) (opinion attributed to Philolaos), *τὸ δὲ ἡγεμονικὸν ἐν τῷ μεσαιοτάτῳ πυρὶ, ὅπερ τρόπῳς δίκην προυπεβάλετο τῆς τοῦ παντός <σφαῖρας> ὁ δημιουργὸς θεός*. Zeller<sup>5</sup>, p. 416, note 1, 'das ἡγεμονικὸν stoisch und der Demiurg platonisch ist, aber die Vergleichung des Centralfeuers mit dem Kiel des Weltganzen doch ursprünglich scheint.'

<sup>4</sup> *E.G.P.*<sup>3</sup>, p. 111 and pp. 297 sqq.

<sup>5</sup> *De Cael.* II. 13. 293A 20 sqq., *ἐναντίως οἱ περὶ τὴν Ἰταλίαν, καλούμενοι δὲ Πυθαγόρειοι λέγουσιν· ἐπὶ μὲν γὰρ τοῦ μέσου πῦρ εἶναι φασί, τὴν δὲ γῆν ἐν τῶν ἀστρων ὄσαν, κύκλῳ φερομένην περὶ τὸ μέσον νύκτα τε καὶ ἡμέραν ποιεῖν*, etc. This system is ascribed to Philolaos in Aet. II. 7. 7 (Diels, *F.V.S.*<sup>3</sup> 32A 16).

central fire itself was earlier; that the earliest generations of the Pythagorean school conceived of fire as existing at the heart of their central, spherical earth. It was only the separation of this fire from the earth and the conversion of the earth into a planet that was late.

The grounds for holding this view are as follows:

(1) Simplicius in his commentary on the passage from the *De Caelo* referred to above describes the Pythagorean central fire system in the same way as Aristotle,<sup>1</sup> concluding with the words: καὶ οὕτω μὲν αὐτὸς (i.e. Aristotle) τὰ τῶν Πυθαγορείων ἀπεδέξατο. He then goes on: οἱ δὲ γνησιώτερον αὐτῶν μετασχόντες πῦρ μὲν ἐν τῷ μέσῳ λέγουσι τὴν δημιουργικὴν δύναμιν τὴν ἐκ μέσου πᾶσαν τὴν γῆν ζωογονοῦσαν καὶ τὸ ἀπεψυγμένον αὐτῆς ἀναθάλλουσιν. διὸ οἱ μὲν Ζηνὸς πύργον αὐτὸ καλοῦσιν, ὡς αὐτὸς ἐν τοῖς Πυθαγορικοῖς ἰστόρησεν, οἱ δὲ Διὸς φυλακὴν, ὡς ἐν τούτοις, οἱ δὲ Διὸς θρόνον, ὡς ἄλλοι φασίν. ἄστρον δὲ τὴν γῆν ἔλεγον ὡς ὄργανον καὶ αὐτὴν χρόνου· ἡμερῶν γάρ ἐστιν αὕτη καὶ νυκτῶν αἰτία· ἡμέραν μὲν γὰρ ποιεῖ τὸ πρὸς τῷ ἡλίῳ μέρος καταλαμπομένη, νύκτα δὲ κατὰ τὸν κῶνον τῆς γινομένης ἀπ' αὐτῆς σκιᾶς. ἀντίχθονα δὲ τὴν σεληνὴν ἐκάλουν οἱ Πυθαγόρειοι ὥσπερ καὶ 'αἰθερίαν γῆν,' etc. Simplicius then here states that the more genuine Pythagorean doctrine was that of a fire in the midst of the earth, endowing the earth with life and heat (ἐκ μέσου πᾶσαν τὴν γῆν ζωογονοῦσαν καὶ τὸ ἀπεψυγμένον αὐτῆς ἀναθάλλουσιν). The earth in this doctrine was still called a star (ἄστρον), being regarded as an instrument of time, inasmuch as it created day when lighted up on the side facing the sun and night by the shadow thrown upon the side turned away from the sun. Now this doctrine is regarded by Zeller<sup>2</sup> as a late modification of the central fire system described by Aristotle in the *De Caelo* on the ground that the doctrine of the earth's revolution on its axis is only found among the Pythagoreans of the fourth century. But it is not necessary to suppose that the earth in the system described by Simplicius rotated on its axis.<sup>3</sup> Rather it is exactly like the central earth of Plato's *Timaeus* which, while possessing no rotatory motion on its axis, yet is called φύλακα καὶ δημιουργὸν νυκτός τε καὶ ἡμέρας,<sup>4</sup> because by remaining fast in its central position on the axis of the cosmos it creates night by casting its shadow on the side of it that is turned away from the sun. There is then evidence in this passage of Simplicius that some Pythagoreans at some period held the doctrine of a central fire hidden in the bowels of the earth and that the doctrine was considered a piece of genuine Pythagoreanism. Simplicius gives no indication of date but it has been shown above that the doctrine need not necessarily be late.<sup>5</sup> It may quite well have been early.

<sup>1</sup> Heiberg, pp. 511 sqq.

<sup>2</sup> Zeller<sup>5</sup>, I., pp. 420 sqq.

<sup>3</sup> This is pointed out by Sir T. Heath, *Aristarchus of Samos*, p. 250: 'The earth in the system described by Simplicius is not in motion, but at rest. For Simplicius, so far from implying that the earth rotates, thinks it necessary to explain how the Pythagoreans to whom he

refers could, notwithstanding the earth's immobility, call it a "star," and count it, exactly as Plato does, among the "instruments of time."'

<sup>4</sup> Plato, *Tim.* 40c 1.

<sup>5</sup> The doctrine that the moon is the antichthon, which is apparently ascribed to the same Pythagoreans, looks a late one. But this need not necessarily show that the doctrine of the fire in

For (2) in favour of the view that the early Pythagoreans already conceived of fire as occupying the interior of the spherical, central earth there is the evidence of general probability. The existence of fire within the earth was a notion to which the action of volcanoes and the phenomenon of hot springs would readily give rise. Empedocles, well acquainted with Mount Etna and the volcanic phenomena of Sicily, held that there was fire inside of the crust of the earth,<sup>1</sup> and his view must have been held by many besides himself in Sicily and South Italy. There is moreover to be considered in this connexion the fact that Hestia, the hearth or hearth-fire, and Earth were already identified by the time of Sophocles and Euripides,<sup>2</sup> and it may be considered at least probable that this identification, whoever was responsible for it, was partly due to the conception of the earth as containing fires within itself.<sup>3</sup>

So far then as general probability goes, there is nothing against and everything in favour of the contention that the doctrine described by Simplicius as belonging to the more genuine adherents of Pythagoreanism was early. The contention is still further supported by (3) a consideration of Aristotle, *Met.* N 1091a 13 sqq., and a comparison of it with a passage in Anatolius *περὶ δεκάδος*.<sup>4</sup>

Aristotle is describing in this passage in the *Metaphysics* the construction of the universe according to the Pythagoreans, and says *φανερῶς λέγουσιν ὡς τοῦ ἐνὸς συσταθέντος, εἴτ' ἐξ ἐπιπέδων εἴτ' ἐκ χροιάς εἴτ' ἐκ σπέρματος εἴτ' ἐξ ὧν ἀποροῦσιν εἰπεῖν, εὐθὺς τὸ ἔγγιστα τοῦ ἀπείρου εἵλκετο καὶ ἐπεραίνετο ὑπὸ τοῦ πέρας*. Now it is Professor Burnet's opinion that we are here dealing with very early Pythagorean cosmology,<sup>5</sup> and he gives good reason for holding that the *ἄπειρον* in this passage is to be considered as air, mist or darkness and that *πέρας* is light or fire, which there is evidence for supposing was an important element in early Pythagorean cosmology.<sup>6</sup> That the original One of this passage is to be considered as a fiery unit does not seem improbable when it is remembered that the One, the monad, is throughout Pythagorean

the earth's interior is late also. Later generations of Pythagoreans might easily have combined the original doctrine of fire inside a central, spherical earth with new-fangled notions about the antichthon. In the view which I hold to be the original Pythagorean one, that of a central fire in the bowels of a spherical earth situated in the centre of the cosmos, there is nothing to correspond to the antichthon but the antipodes (*Alex. Polyhistor. ap. Diog. Laert.* VIII. 25: The Pythagoreans taught *γίνεσθαι . . . κόσμον ἐμψυχον, νοερόν, σφαιροειδῆ, μέσσην περιέχοντα τὴν γῆν καὶ αὐτὴν σφαιροειδῆ καὶ περιρικνουμένην, εἶναι δὲ καὶ ἀντίποδας καὶ τὰ ἡμῖν κάτω ἐκείνοις ἄνω*). Is it unreasonable to suppose that the later notion of the separate antichthon developed from the idea of antipodes?

<sup>1</sup> Fr. 52 (*F.V.S.*<sup>3</sup> 21B 52), and compare fr. 62 (*F.V.S.*<sup>3</sup> 21B 62).

<sup>2</sup> Fr. 615 (Pearson) (Philodemus de piet., p.

23): καὶ Σοφοκλῆς ἐκ 'Ἰνά>χψ τὴν γῆν μ<ητέ>ρα τῶν θεῶν φη<σιν>, ἐν Τριπτολέμῳ δὲ καὶ 'Ἐστίαν εἶναι.

Euripides, fr. 944 (Nauck<sup>2</sup>):

καὶ Γαῖα μήτηρ · 'Ἐστίαν δὲ σ' οἱ σοφοὶ  
βροτῶν καλοῦσιν ἡμένην ἐν αἰθέρι.

<sup>3</sup> See Martin, *Mémoires de l'Académie des Inscriptions et Belles Lettres* XXVIII, Pt. I., pp. 335 sqq. Martin, following Nägelsbach, attributes the identification to the Orphics, p. 349. Cf. οἱ σοφοὶ βροτῶν in the fragment of Euripides.

<sup>4</sup> P. 30, Heiberg (*Annales intern. d'Histoire*, 1900) = *Theol. Arith.*, p. 6, Ast (Diels, *F.V.S.*<sup>3</sup> 18A 44).

<sup>5</sup> *E.G.P.*<sup>3</sup>, pp. 108 sqq.

<sup>6</sup> Hippasos made Fire the first principle according to Aristotle, *Met.* A. 984A 7. Moreover, Light and Darkness appear under the heads of Limit and Unlimited respectively in the Pythagorean table of opposites (*Met.* A. 986A 25).



doctrine identified with the central fire.<sup>1</sup> But what is the position of this original fiery unit in the universe? It is natural to think of it as in the centre;<sup>2</sup> and when the universe, which must be thought of in terms of early Pythagorean doctrine as geocentric, has been completely formed, it will still be in the centre, the boundless mist or darkness having condensed around it to form the hard solidity of the earth. That this is not a purely imaginary picture may be claimed by reference to the passage in Anatolius:

Πρὸς τούτοις ἔλεγον (i.e. the Pythagoreans) περὶ τὸ μέσον τῶν τεσσάρων στοιχείων κείσθαι τινα ἑναδικὸν διάπυρον κύβον, οὗ τὴν μεσότητα τῆς θέσεως καὶ Ὁμηρον εἰδέναι λέγοντα· 'τόσσον ἔνερθ' αἶδαο, ὅσον οὐρανός ἐστ' ἀπὸ γαίης.' εἰκόασι δὲ κατὰ γε τοῦτο κατηκολουθηκέναι τοῖς Πυθαγορικοῖς οἳ τε περὶ Ἐμπεδοκλέα καὶ Παρμενίδην καὶ σχέδον οἱ πλείστοι τῶν πάλαι σοφῶν φάμενοι τὴν μοναδικὴν φύσιν ἐστίας τρόπον ἐν μέσῳ ἰδρῦσθαι καὶ διὰ τὸ ἰσόρροπον φυλάσσειν τὴν αὐτὴν ἔδραν. Here the monad appears as ἑναδικὸς διάπυρος κύβος, and Empedocles, Parmenides, and their followers are said to have been among those who followed the lead of the Pythagoreans in placing this fiery matter (τὴν μοναδικὴν φύσιν ἐστίας τρόπον) in the midst of the universe. But as both in Empedocles' doctrines<sup>3</sup> and in the Way of Opinion in Parmenides' poem<sup>4</sup> the universe had the earth for its centre, by the fiery core of the universe which is attributed to them in this passage must be meant the fiery core of the earth.<sup>5</sup> In view then of the statement made in the passage that in this respect Empedocles and Parmenides followed the lead of the Pythagoreans, it is justifiable, it seems, to hold that in the early Pythagorean cosmology, which was geocentric, the earth was regarded as having a fiery core. The character and position we assigned to the monad above was in fact the correct one.

It is time now to turn to the consideration of the fiery periphery of the universe in Pythagorean doctrine. Aristotle implies the existence of it in their doctrine in *De Caelo* II. 13. 293A 20 sqq., the passage which was referred to above as containing the account of the central fire system of the later Pythagoreans. After describing the position of the central fire and the motion of the earth round it, he accuses the Pythagoreans of constructing this system of the universe according to *a priori* principles instead of the evidence of observed facts, and then says: πολλοῖς δ' ἂν καὶ ἑτέροις συνδόξειε μὴ δεῖν τῇ γῇ τὴν τοῦ μέσου χώραν ἀποδιδόναι, τὸ πιστὸν οὐκ ἐκ τῶν φαινομένων ἀθροῦσιν ἀλλὰ μᾶλλον ἐκ τῶν λόγων. τῷ γὰρ τιμιωτάτῳ οἴονται (i.e. the Pythagoreans)

<sup>1</sup> Cf. Ross, note *ad loc.* He identifies the One with the Limit here.

<sup>2</sup> Cf. Ross, note *ad loc.*: 'The One is thought of as being in the centre of a shapeless mass of air or vapour and gradually introducing shape and limit into it, working from within outwards.'

<sup>3</sup> Aristotle, *De Cael.* 295A 13 sqq.; Ps. Plut. *strom.*, fr. 10 (Diels, *Dox. Graec.*, p. 582).

<sup>4</sup> Aet. III, 15. 7; Diog. Laert. IX. 21.

<sup>5</sup> See what is said above about the fire in the

earth in Empedocles' doctrine. The reference to Parmenides in the passage from Anatolius is to the cosmology in the second part of Parmenides' poem. I am reserving the discussion of this cosmology to a later place. It is significant that in the Anatolius passage the words immediately following those quoted above are: καὶ δὴ Εὐριπίδης ὡς Ἀναξαγόρου γενόμενος μαθητὴς οὕτω τῆς γῆς μνησθεὶς 'ἐστὶν δέ σ' οἱ σοφοὶ βροτῶν νομίζουσιν.'

προσήκειν τὴν τιμιωτάτην ὑπάρχειν χώραν, εἶναι δὲ πῦρ μὲν γῆς τιμιώτερον, τὸ δὲ πέρας τῶν μεταξύ, τὸ δ' ἔσχατον καὶ τὸ μέσον πέρας· ὥστ' ἐκ τούτων ἀναλογιζόμενοι οὐκ οἴονται ἐπὶ τοῦ μέσου κεῖσθαι τῆς σφαίρας αὐτὴν ἀλλὰ μᾶλλον τὸ πῦρ. According to Aristotle then the Pythagoreans reasoned that the centre, being one of the limits of the universe and therefore one of the most honourable places in it, must be occupied by the honourable element of fire; but he does not go on to state expressly the second conclusion which must inevitably follow from this line of reasoning—i.e. that the other limit, τὸ ἔσχατον, the outermost part of the universe, must also be occupied by fire. But if the doctrine of a fiery periphery is not expressly stated here as belonging to the Pythagoreans, it is most certainly implied. Now in Aetios II. 7. 7<sup>1</sup> we read: Φιλόλαος πῦρ ἐν μέσῳ περὶ τὸ κέντρον ὅπερ ἐστὶν τοῦ πάντος καλεῖ . . . καὶ πάλιν πῦρ ἕτερον ἀνωτάτω τὸ περιέχον. Statements made about Philolaos in the doxographers have to be used with great caution, because their authenticity is as questionable as that of fragments of Philolaos. But the evidence from Aristotle given above may be quoted in support of the supposition that the circumambient fire referred to in the Aetios passage was a piece of genuine Pythagorean doctrine.<sup>2</sup> Yet a comparison of these two passages, while indicating the existence in Pythagoreanism of a doctrine of a fiery periphery, does not carry us very far or set us on very certain ground; and it is to be noticed moreover that the system of the universe described in both passages is that of the later Pythagorean teachers, who placed fire in the centre and made the earth and antichthon revolve round it.

In search of further information about the fiery periphery it is necessary to turn to another quarter which has not yet been explored—the fragments of Parmenides and the views attributed to him. Here, in spite of the tantalizingly fragmentary character of the evidence, a good deal of information is forthcoming not only about a fiery periphery but also about the central fire.

The part of Parmenides' poem which furnishes the information is Part II., the Way of Opinion. The problem of the relation of this part to Part I., the Way of Truth, the vexed question whether the cosmology of the Way of Opinion is to be regarded as Parmenides' own explanation of the sensible world or as an exposition of the opinions of others for the better instruction of his disciples, fortunately need not here be discussed. It is the Pythagorean character of the cosmology that is important from our point of view; and that the cosmology is Pythagorean in character, or at any rate that there are Pythagorean ideas in it, will be generally admitted.<sup>3</sup>

<sup>1</sup> Diels, *F.V.S.* 3 32A 16.

<sup>2</sup> It does not seem possible to draw any certain conclusions from Aet. I. 14. 2, οἱ ἀπὸ Πυθαγόρου σφαιρικὰ τὰ σχήματα τῶν τεττάρων στοιχείων, μόνον δὲ τὸ ἀνώτατον πῦρ κωνοειδές, or from Aet. II. 20. 12, the passage about the sun's light being only a reflection. Cf. Burnet, *E.G.P.* 3, p. 298 note.

<sup>3</sup> Ancient tradition relates that Parmenides had associated with the Pythagorean Ameinias or that he was a Pythagorean. For the evidence

see Burnet, *E.G.P.* 3, p. 170. Professor Burnet's view is that the second part of the poem is 'a sketch of contemporary Pythagorean cosmology.' Mr. F. M. Cornford, *From Religion to Philosophy*, p. 217, 'the Pythagorean character of the Way of Opinion is recognized.' Zeller, *o.c.*, p. 572, grants the existence of Pythagorean doctrine in the Way of Opinion. Cf. Gomperz, *Greek Thinkers* (Eng. trans.) I, p. 182.

Now Simplicius<sup>1</sup> quotes from Parmenides' Way of Opinion the following fragment describing the goddess who governs all things:

αἱ γὰρ στεινότεραι πλῆντο πυρὸς ἀκρήτοι  
αἱ δ' ἐπὶ ταῖς νυκτός, μετὰ δὲ φλογὸς ἵεται αἷσα·  
ἐν δὲ μέσῳ τούτων δαίμων ἢ πάντα κυβερνᾷ·  
πάντα γὰρ <ἡ> στρυγεροῖο τόκου καὶ μίξις ἄρχει  
πέμπουσ' ἄρσενι θῆλυ μίγην τό τ' ἐναντίον αὐτῆς  
ἄρσεν θηλυτέρῳ.

There is not much doubt that the goddess who is described here as δαίμων ἢ πάντα κυβερνᾷ is to be identified with Ananke, who is mentioned in fragment 10:<sup>2</sup>

εἰδήσεις δὲ καὶ οὐρανὸν ἀμφὶς ἔχοντα  
ἐνθεν ἔφυ τε καὶ ὧς μιν ἄγουσ' ἐπέδησεν Ἀνάγκη  
πεῖρατ' ἔχειν ἄστρον.

For in Aetios II. 7. 1, which comes from Theophrastus,<sup>3</sup> the statement is made that Parmenides called the δαίμων κυβερνήτης by the name of Ἀνάγκη, and the similarity between the functions of Parmenides' goddess as described by Simplicius (τὰς ψυχὰς πέμπειν ποτὲ μὲν ἐκ τοῦ ἐμφανοῦς εἰς τὸ αἰεδές, ποτὲ δὲ ἀνάπαλιν φήσιν)<sup>4</sup> and the part played by Ἀνάγκη in the journey of the souls to rebirth in Plato's myth of Er, makes it practically certain that the statement of Theophrastus was correct.<sup>5</sup> Whether we should go further and identify Δίκη, the goddess of the proem, with Ananke and the δαίμων κυβερνήτης is more doubtful. But this identification has also the support of the Aetios passage (Theophrastus);<sup>6</sup> and I note that in the Way of Truth, where there are, as it were, echoes of the terminology employed in the cosmology of the Way of Opinion, Δίκη and Ἀνάγκη seem to be interchangeable terms (cf. fr. 8, l. 13, τοῦ εἵνεκεν οὔτε γένεσθαι | οὔτ' ὄλλυσθαι ἀνῆκε δίκη χαλάσασα πέδησιν | ἀλλ' ἔχει, with l. 30 sqq., χοῦτως ἔμπεδον αὐθι μένει· κρατερὴ γὰρ Ἀνάγκη | πεῖρατος ἐν δέσμοισιν ἔχει, τό μιν ἀμφὶς ἔργει).<sup>7</sup> However it is the identification of the δαίμων ἢ πάντα κυβερνᾷ with Ἀνάγκη that is important for our purpose: the possible identification of both with Δίκη, though interesting, is not material.<sup>8</sup>

<sup>1</sup> Simp. *Phys.* (Diels) 39. 12 and 31 10 = Parmenides, fr. 12; *F.V.S.*<sup>3</sup> 18B 12.

<sup>2</sup> *F.V.S.*<sup>3</sup> 18B 10, l. 5 sqq.

<sup>3</sup> Burnet, *o.c.*, pp. 189-190.

<sup>4</sup> Simp. *Phys.* 39. 17 (continuation of the passage referred to above), ταύτην καὶ θεῶν αἰτίαν εἶναι φησι λέγων 'πρώτιστον μὲν Ἔρωτα θεῶν μητί-  
σατο πάντων' . . . καὶ τὰς ψυχὰς πέμπειν ποτὲ μὲν ἐκ τοῦ ἐμφανοῦς, etc. (*F.V.S.*<sup>3</sup> 18B 13).

<sup>5</sup> Cf. Burnet, *E.G.P.*<sup>3</sup>, p. 190. He accepts the identification, as also does Gilbert. 'Die δαίμων des Parmenides' in *Archiv. für Geschichte der Philosophie*, N.F. XIII., pp. 25 sqq. Cf. F. M. Cornford, *o.c.*, p. 222.

<sup>6</sup> Ἦντινα καὶ δαίμονα κυβερνήτην καὶ κληροῦχον ἐπονομάζει Δίκην τε καὶ Ἀνάγκην, cf. Aet. I. 25. 3. Παρμενίδης καὶ Δημόκριτος πάντα κατ' ἀνάγκην· τὴν αὐτὴν δὲ εἶναι εἰμαρμένην καὶ δίκην καὶ πρόνοιαν καὶ κοσμοποιον.

<sup>7</sup> The third interchangeable term is Μοῖρα, cf. l. 37 of the same fragment.

<sup>8</sup> Gilbert, *o.c.*, makes the second identification. Diels (*Parmenides Lehrgedicht*, p. 51) separates Δίκη πολύποιος from the goddess of the proem; Δίκη is only the priestess of the temple of light. Neither does he identify the goddess of the proem and the δαίμων κυβερνήτης.

Now the position of the *δαίμων κυβερνήτης*—that is, Ananke—in the universe as described in the Way of Opinion is a desperately vexed question. 'For the narrower crowns,'<sup>1</sup> says Parmenides, 'were filled with unmixed fire and those next to them with night, and a portion of flame rushes with it. In the midst of these is the goddess who governs all things.' There is just not enough of the fragment to make the meaning of the words *ἐν μέσῳ τούτων* clear, and when we turn to the doxographers, instead of finding the obscurity cleared up, we are confronted by a diversity of opinion.

Simplicius placed the goddess in the centre of the universe (*Phys.* 34. 14, *καὶ ποιητικὸν αἴτιον ἐκείνος μὲν ἐν κοινὸν τὴν ἐν μέσῳ πάντων ἰδρυμένην καὶ πάσης γενέσεως αἰτίαν δαίμονα τίθησιν*), that is, in the centre of the earth, for in Parmenides the earth occupies the central place in the cosmos.<sup>2</sup> It is clear too that in so placing her he was probably thinking of the Pythagorean *ἐστία* or central fire.<sup>3</sup> For compare his statement in *Phys.* 39. 17, *ταύτην καὶ θεῶν αἰτίαν εἶναι φησι λέγων 'πρώτιστον μὲν Ἐρωτα θεῶν μητίσατο πάντων'* with the familiar Pythagorean designation of the central fire as *μητὴρ θεῶν*.<sup>4</sup> This recalls the statement made in Anatolius (see above) that Parmenides placed *τὴν μοναδικὴν φύσιν*—that is, fiery matter—*ἐστίας τρόπον* in the midst of the universe.<sup>5</sup> It is then justifiable to say that according to one tradition the Ananke of Parmenides was conceived in terms of the Pythagorean central fire and seated at the heart of the earth, which is the centre of the universe.

But it is clear from the doxographers that there was another tradition which regarded the goddess as celestial and placed her in the heavens and not in the centre of the earth. In Aetios II. 7. 1 she is identified with the central crown of the mixed crowns of fire and darkness;<sup>6</sup> and Cicero is following a similar tradition when he says in the *De natura deorum*:<sup>7</sup> 'Nam Parmenides quidem commenticium quiddam coronae simile efficit (*στεφάνην* appellat) continente ardore lucis orbem, qui cingit caelum, quem appellat deum; in quo neque figuram diuinam neque sensum quisquam suspicari

<sup>1</sup> That the noun to be supplied with *στεϊνότεραι* is *στεφάναι* is clear from Aet. II. 7. 1: *Παρμενίδης στεφάνας εἶναι περιπεπλεγμένους, ἐπαλλήλους, τὴν μὲν ἐκ τοῦ ἁραιοῦ, τὴν δὲ ἐκ τοῦ πυκνοῦ· μικτὰς δὲ ἄλλας ἐκ φωτὸς καὶ σκότους μεταξὺ τούτων*. The reference is to rings or bands of light or darkness or light and darkness mixed, which are conceived as running round the sky and encircling the central earth. See Burnet, *E.G.P.*<sup>3</sup>, pp. 187 sqq.

<sup>2</sup> See references above.

<sup>3</sup> Burnet, *E.G.P.*<sup>3</sup>, p. 189; cf. Gilbert, *o.c.*, p. 42. I have shown above that there is no objection to the view that the early Pythagoreans conceived of their central, spherical earth as containing a core of fire.

<sup>4</sup> Aet. II. 7. 7, where the names given to the central fire by [Philolaos] are given as *ἐστία*, *Διὸς οἶκος*, *μητὴρ θεῶν*, *βωμὸς καὶ συνοχή καὶ μέτρον φύσεως*. These names are surely to be regarded as early and not as belonging to the late Pythagoreans only. Their character attests their

antiquity.

<sup>5</sup> It is interesting to notice that in Orphic Hymn XXVII. (Abel) to Rhea the mother of the gods, who is in that hymn identified with Hestia, the language is in the highest degree reminiscent of that used of the *δαίμων κυβερνήτης* in Parmenides' poem:

*Ἀθανάτων θεότιμε θεῶν μητρερ, τρέφε πάντων,  
τῇδε μόλοις, κράντειρα θεά, σέο, πότνι, ἐπ' εὐχαῖς, . . .  
ἣ κατέχεις κόσμοιο μέσον θρόνον, οὔνεκεν  
αὐτῇ  
γαῖαν ἔχεις θνητοῖσι τροφὰς παρέχουσα προσηγεῖς.  
ἐκ σέο δ' ἀθανάτων τε γένος θνητῶν τ' ἐλο-  
χεύθη . . .  
'Ἰστίη αὐδαχθεῖσα . . .*

The two equations Rhea=Earth and Hestia=Earth seem to have operated here.

<sup>6</sup> *Τῶν δὲ συμμιγνῶν τὴν μεσαιτάτην ἀπάσαις <ἀρχήν> τε καὶ <αἰτίαν> κινήσεως καὶ γενέσεως ὑπάρχειν, ἥντινα καὶ δαίμονα κυβερνήτην καὶ κληρούχον ἐπονομάζει Δίκην τε καὶ Ἀνάγκην.*

<sup>7</sup> I. II. 28 (*F.V.S.*<sup>3</sup> 18A 37).

potest.' This tradition is consistent not only with the evidence of the fragments themselves, where 'Ανάγκη is said to have bound the heavens together, as a fiery circle might be regarded as binding them (fr. 10, ll. 6, 7, ὥς μιν [i.e. οὐρανὸν ἀμφὶς ἔχοντα] ἄγουσ' ἐπέδησεν 'Ανάγκη | πείρατ' ἔχειν ἄστρον), but also with the function attributed to ἀνάγκη in Pythagorean tradition elsewhere. For according to Aet. I. 25. 2, Πυθαγόρας ἀνάγκην ἔφη περικεῖσθαι τῷ κόσμῳ.<sup>1</sup>

To this diversity of opinion in the ancient tradition corresponds a like diversity of opinion among modern commentators; for while Gilbert places Ananke in the middle of the earth like Simplicius,<sup>2</sup> and Diels inclined to that view,<sup>3</sup> Burnet protests against the relegation of the goddess to the middle of the solid earth, and regarding the Milky Way as a band intermediate between sun and moon and noting that it is prominently mentioned in fragment 11, suggests the Milky Way as a suitable position for her.<sup>4</sup>

I suggest that the solution of the problem arising out of the diversity of tradition about the position of Parmenides' goddess is to be found in regarding her as having been described in the complete poem as *both* seated at the centre of the earth *and also* occupying a fiery circle or band which encircled the heavens. But why should she have occupied two seats? The answer is that she is fire:<sup>5</sup> for note that Simplicius seems to have identified her with the fire at the heart of the universe, and in Aetius (Theophrastus) and Cicero she is described not as dwelling in the fiery circle or crown but as *being* the fiery circle or crown. May it not be surmised then that in Parmenides' Way of Opinion under the form and figure of the goddess Ananke there was expressed an early Pythagorean doctrine of a universe warmed and animated by fire at its centre (cf. the words of Simplicius noted above, ζογονοῦσαν καὶ τὸ ἀπεψυγμένον αὐτῆς ἀναθάλλουσιν), and also girded and encircled by the same life-giving and life-preserving element? This I suppose to have been probably the earliest form of the Pythagorean doctrine of the central fire and fiery periphery, the evidence for which we examined above. Now it is clear that Ananke was connected with the giving of life (cf. the evidence of fragments 12 and 13 with Aet. II. 7. 1), and for the part played by fire and heat in producing and maintaining life there is good evidence in early Greek

<sup>1</sup> Cf. Iambl. *Theol. Arith.* 60: τὴν 'Ανάγκην οἱ θεόλογοι τῇ τοῦ παντὸς οὐρανοῦ ἐξωτάτῃ ἀντυγι ἐπηχοῦσι.

<sup>2</sup> *l.c.*, pp. 27 sqq.

<sup>3</sup> In *Parmenides Lehrgedicht*, p. 107. In the note on p. 161 in *F.V.S.*<sup>3</sup> he simply states two views—(a) that of Berger, who placed her in the sun and (b) that of Simplicius and Gilbert.

<sup>4</sup> The character of the Milky Way corresponds to the description given of the mixed crowns or bands in Aet. II. 7. 1 (μικτὰς δὲ ἄλλας ἐκ φωτὸς καὶ σκότους μεταξὺ τούτων); cf. Aet. III. 1. 4, Παρμενίδης τὸ τοῦ πυκνοῦ καὶ τοῦ ἀραιοῦ μίγμα γαλακτοειδὲς ἀποτελεῖσαι χρώμα. Aet. II. 20. 8A

would support the statement that the Milky Way was intermediate between sun and moon. Burnet inclines not to believe in the 'mixed bands,' which he thinks arise from a confused interpretation of fr. 12 by the authority responsible for the statement in Aet. II. 7. 1. But he says (p. 191): 'Whether we believe in the "mixed bands" or not makes no difference . . .; for the statement of Aetios that she was in the middle of the mixed bands undoubtedly implies that she was between earth and heaven.'

<sup>5</sup> Cf. Mr. F. M. Cornford's illuminating remarks in *From Religion to Philosophy*, p. 222 and notes.

philosophy.<sup>1</sup> Therefore it does not seem going too far to say that in this Pythagorean doctrine of central and encircling fire may be found an early conception of the soul of the universe, expressed in the materialistic terms which alone were possible in the late sixth and early fifth centuries B.C. Zeller<sup>2</sup> held that the doctrine of a world-soul diffused throughout the whole from the central fire or from the circumference was not to be ascribed to the Pythagoreans, but to be regarded as a later doctrine, due to the influence of Plato and the Stoics on early conceptions of the central fire. He says: 'Wir dürfen daher die Lehre von der Weltseele den Pythagoreern nicht beilegen, und wenn sie auch vom Centralfeuer Wärme und Lebenskraft in die Welt ausströmen liessen, so ist doch diese alterthümlich materialistische Vorstellung von der Annahme einer Weltseele, als eines besondern, unkörperlich gedachten Wesens, noch sehr verschieden.' It is just this materialistic notion of heat and vital force flowing into the universe from the central fire *and* from the circumambient fire that I suppose to have been the early Pythagorean doctrine.

In connexion with Parmenides' poem a difficulty certainly occurs in that according to the doctrine of a fiery periphery, as we find it indicated in Aristotle,<sup>3</sup> Ananke ought to occupy the outermost of the crowns which encircle the sky instead of a position midway between earth and heaven in the middle of the mixed crowns.<sup>4</sup> In *Aet.* II. 7. 1 the outermost part of the universe is described thus: *καὶ τὸ περιέχον δὲ πάσας* (i.e. *τὰς στεφάνας*) *τείχους δίκην στερεὸν ὑπάρχειν, ὑφ' ᾧ πυρώδης στεφάνη*. Apparently Parmenides' universe is bounded by a solid firmament,<sup>5</sup> underneath which runs a fiery crown. It seems at first sight that the goddess ought to have been seated in this *πυρώδης στεφάνη* underneath the solid firmament, just as she is the fire which lies beneath the solid crust of the central earth. Why then was she relegated to a position midway between earth and sky? The difficulty admits of solution, if with Burnet we place her in the Milky Way, the Milky Way being regarded as occupying the central position among the mixed crowns in Parmenides' universe. If I am right about an early Pythagorean doctrine of the soul of the universe regarded as central and circumambient fire, then all the wheels of fire in heaven, whether pure, like the outermost *πυρώδης στεφάνη*, or enclosed in darkness, like those which by virtue of their enclosing coat of the dense element form the mixed crowns,<sup>6</sup> could have been thought of as constituting the circumambient part of the world soul, and I suggest that this may actually

<sup>1</sup> E.g., according to Heraclitus the life of the human soul depended on the maintenance in it of the due measures of fire. See Diels, *F.V.S.*<sup>3</sup> 12B 36 (cf. 12B 26 and 118, and Burnet, *E.G.P.*<sup>3</sup>, p. 151). For the part played by fire in producing life in Empedocles' doctrine see Diels, *F.V.S.*<sup>3</sup> 21B 62.

<sup>2</sup> *l.c.* I., pp. 416 sqq.

<sup>3</sup> *De Caelo* II. 13. 293A 20 sqq., cited above.

<sup>4</sup> Cf. *τῇ ἐξωτέρῃ ἄντρωι* in the passage from Iamblichus quoted above.

<sup>5</sup> Cf. the crystalline vault of Empedocles, *Aet.* II. 11. 2.

<sup>6</sup> These are the circles, the fire bursting out from which makes the Morning Star, the Sun, the Milky Way, the other stars, and the Moon. *Aet.* II. 7. 1 compared with II. 15. 7, II. 20. 8A, III. 1. 4. See Diels, *F.V.S.*<sup>3</sup>, p. 161 note.

have been the case.<sup>1</sup> Now, as Burnet points out,<sup>2</sup> the appearance of the Milky Way in the night sky may very well have given rise to the whole theory of the encircling of the universe by wheels or bands of fire. At any rate of all the bands assumed by early astronomical speculation<sup>3</sup> it is the only band actually visible in the sky, and therefore it is likely to have been pointed to by early Pythagorean thinkers as the visible manifestation of the circumambient fire.<sup>4</sup> Here then is one reason for localizing the goddess, who is the source of life and mistress of souls, in the Milky Way. But there is another which was probably far more cogent. According to a tradition going back into remote antiquity the Milky Way was the place or path of souls,<sup>5</sup> and its circle was therefore the appropriate seat for her whose function was the dispensing of life and death to individual souls.<sup>6</sup>

It is time now to turn back to Plato and to consider whether the conclusions which have been reached contain any explanation of the light of the myth of Er. This light, as was seen above, is described as running axis-wise through the sphere of the heavens, so as to pierce their centre the earth, and also as encircling on the outside the celestial sphere. It is then, like Parmenides' Ananke, both circumambient and present at the earth's centre. Moreover among the ancient explanations of Plato's light there were some that identified it with the Milky Way, with which, as we saw above, there was reason to suppose Ananke's circle in Parmenides might be identified; and the fact that the goddess Ananke herself plays an important part in Plato's myth, though hard it is indeed to localize her exactly from the indications that Plato gives of her position,<sup>7</sup> seems to show that Parmenides and Plato were both here concerned with the same set of ideas. If then, as may without difficulty be conceded, fire and light are equated and regarded as but two names for the same stuff or substance, consideration of the evidence of Parmenides' poem plainly suggests that the light as described by Plato may be intended to represent the soul of the cosmos, and that in a myth which had for its object the story of the fate of the soul of man, the microcosm, Plato

<sup>1</sup> The intervals between the wheels of fire in heaven may have been identified with the musical intervals of the scale (Burnet, *E.G.P.*<sup>3</sup>, p. 110). Burnet suggests *ad loc.* that the doctrine of the 'harmony of the spheres' began in some such way. If, as has been suggested recently by Mr. Cornford (*C.Q.* XVI., pp. 145 sqq.), the doctrine that soul is a harmony belongs to early Pythagoreanism, then the fiery world soul may have been regarded as constituting an *ἀρμονία*.

<sup>2</sup> *E.G.P.*<sup>3</sup>, p. 191.

<sup>3</sup> The theory of wheels or bands goes back, of course, to Anaximander. Burnet suggests (*E.G.P.*<sup>3</sup>, p. 188) that Pythagoras adopted the theory from him.

<sup>4</sup> Cf. Zeller<sup>5</sup> I., p. 435.

<sup>5</sup> Porphyry. *de antro nymph.* 28. Pythagoras is given as authority for the statement that souls *συνάγεσθαι εἰς τὸν γαλαξίαν*. Cf. the view of Heracleides of Pontus, a Pythagorizing Platonist

(Stob. *Ecl.* I. 41. 39).

But the notion that the Milky Way is the place or path of souls is probably older even than Pythagoras and the Pythagoreans. Cf. the instances of the occurrence of the idea among primitive peoples given in Tylor, *Primitive Civilization*<sup>4</sup> I., p. 359, and Dr. A. B. Cook, *Zeus* II., pp. 37 sqq.

<sup>6</sup> Simpl. *Phys.* 39. 17 quoted above.

<sup>7</sup> The spindle revolves *ἐν τοῖς τῆς Ἀνάγκης γόνασιν* (617B). This might suggest that the whole heaven is embraced and surrounded by Ἀνάγκη. But see Adam's note *ad loc.* for another interpretation of the phrase, which it must be confessed lacks explicitness if an exact statement of Ἀνάγκη's position in the universe is sought from it. Again the souls pass ultimately *ὑπὸ τὸν τῆς Ἀνάγκης θρόνον* (621A), but their whereabouts at this point in the story is not clear.

found it appropriate to insert a picture of the soul of the world, the macrocosm, and for this picture went back to early Pythagorean doctrines of life-giving fire or light encircling the universe and residing at the centre of the universe, the interior of the earth.

In support of this view two pieces of further evidence are forthcoming:

1. Adam already noted<sup>1</sup> the similarity of wording between the description of the light in *Republic* 616 B and the passage in *Timaeus* 34B, where the Pythagorean Timaeus describes the construction of the world-soul by the *δημιουργός*. In the *Timaeus* the words are *ψυχὴν εἰς τὸ μέσον αὐτοῦ θείσ διὰ παντός τε ἔτεινεν καὶ ἔτι ἔξωθεν τὸ σῶμα αὐτῇ περιεκάλυψεν*. In the *Republic* the light is *διὰ παντός τοῦ οὐρανοῦ καὶ γῆς τεταμένον εὐθὺν οἶον κίονα* and is further described as *σύνδεσμον τοῦ οὐρανοῦ . . . πᾶσαν συνέχον τὴν περιφορὰν*. The general resemblance of the passages is noteworthy<sup>2</sup> and the verbal parallel contained in the words spaced is particularly striking. Thus a comparison between these two passages supports the view that Plato's light in the myth is meant to represent the world-soul.

2. The other piece of evidence is derived from Heracleides of Pontus. He belonged to the generation after Plato and was a student and teacher of Platonism. He was also deeply influenced by Pythagorean doctrine, as the fragments that are left of his works testify.<sup>3</sup> He represents just that blending of Platonism and Pythagoreanism which makes his evidence peculiarly valuable. It is then significant that Heracleides defined the soul as light-like (Aetius IV. 3. 6 *Ἡρακλείδης φωτεινὴν τὴν ψυχὴν ὥριστο*). It is to be presumed that this statement refers to the individual soul,<sup>4</sup> the soul of the microcosm, but it strengthens the evidence for the theory that the Pythagoreans may have thought of the world-soul, the soul of the macrocosm, as light or like light, and that Plato when Pythagorizing may have represented it thus.

The fire of the periphery and the fire of the centre together in early Pythagorean doctrine constituted the world-soul. The fire of the periphery Plato represents, if our interpretation of his language in 616C is correct, by a single circle or band of light which embraces the celestial sphere on the outside and passes through the poles. It is not, strictly speaking, identical with the Milky Way, which is a great circle, or nearly a great circle, which passes near the poles but not through them. But the Milky Way may be regarded as an emanation from it,<sup>5</sup> a visible token in the ordinary workaday world of the existence of the fire of the periphery, which can only be seen in its true form by the eyes of purified and disembodied souls.

But what of the fire of the centre? It has been greatly developed in

<sup>1</sup> Note on 616B 14 *ad fin.*

<sup>2</sup> Cf. *Timaeus* 36D sqq., especially the words ἡ δ' (i.e. ἡ ψυχὴ) ἐκ μέσου πρὸς τὸν ἔσχατον οὐρανὸν πάντῃ διαπλακείσα κύκλῳ τε αὐτὸν ἔξωθεν περιεκάλυψεν . . .

Cf. again the language used of *Ἀνάγκη* in the Orphic *Theogony* of Hieronymus and Hellanicus (Lobeck, *Aglaophamus*, p. 485), *διωργυρωμένην ἐν*

*παντὶ τῷ κόσμῳ, τῶν περάτων αὐτοῦ ἐφαπτομένην*. I owe this last passage to Dr. A. B. Cook (see *Zeus* II., Part II., p. 1022).

<sup>3</sup> Zeller<sup>4</sup> II., pp. 1034 sqq.

<sup>4</sup> Cf. Philoponus, *De an.*, quoted in Diels, *Dox. Graec.*, p. 214, and Plut. *de lat. uiu.* VI. 1130B.

<sup>5</sup> Cf. Zeller<sup>5</sup> I., p. 435, and Adam, note on 616B *sub fin.*



Plato's picture. For it has been extended both ways into a long and narrow band, which pierces the earth's crust and then is prolonged in both directions to the north and south poles of the heavens. It has become *διὰ παντὸς τοῦ οὐρανοῦ καὶ γῆς τεταμένον φῶς εὐθύ, οἶον κίονα*, an axis of light which runs diametrically through the whole circular universe. What other conception has been added to that of circumambient and central fire to produce this result, and what is the meaning of *οἶον κίονα*, the simile used to describe the axis of light?

Dr. A. B. Cook, in Volume II. of his book *Zeus*, has put forward a most convincing explanation of Plato's simile and of the pillar-like part of the light.<sup>1</sup> He points out that the pillar of light 'has no counterpart in astronomical fact, or, for that matter, in astronomical theory,' and suggests that 'it was based upon popular belief with ritual usage behind it.' It is derived from cult, where the symbol of the sky-god Zeus was a pillar reaching from earth to heaven and supporting the heavens above the earth. Dr. Cook adduces evidence from Tarentum, in the close neighbourhood of the Pythagorean cities of Kroton and Metapontum, of such a pillar-cult of Zeus, and compares the association of the sky-god with a pillar in Minoan times and the worship of the Irminsul, the pillar of the sky-god, in the early Germanic areas. His conclusion is that Plato's pillar of light was suggested by the old notion of the world-pillar or column of the universe which prevented the heavens from falling down upon the earth.

The transition from pillar to axis, it is to be noted, is easy.<sup>2</sup> The sky-pillar or sky-prop belongs to the old notion of the flat earth overhung by the heavens as by a roof. As knowledge increased and the conception of a spherical earth maintained in equilibrium in the centre of a spherical world gained ground, the sky-pillar, becoming obsolete in its old form and function, was transmuted into the cosmic axis. Like the original sky-prop, which had its base on earth and carried the heavens on its summit, the axis, as it stretches from end to end of the spherical heavens and pierces their centre the earth, performs a sustaining function, for on it the unity and the revolution of the whole cosmos depend. The conversion of pillar into axis may quite well have taken place in Pythagorean circles, for the Pythagoreans were especially concerned with maintaining the doctrine of a spherical earth in the midst of a spherical cosmos. If this was the case, then it is appropriate to meet in a myth, which is full of Pythagorean ideas, the axis of the universe compared with a pillar. When the souls saw the straight light first of all in the distance, it rose up before them in the form and semblance of the old sky-pillar.

Dr. Cook's explanation of the straight light is in itself convincing and it can be supported by some further evidence in ancient tradition. The tradition is connected with the Titan Atlas, who was represented in the myths as

<sup>1</sup> Pp. 44 sqq. I should like to express here my great sense of obligation to Dr. Cook, who put at my disposal part of Volume II. of *Zeus*, when

it was still in proof, in June, 1923.

<sup>2</sup> *Zeus* II., p. 169.

supporting the heavens. In general Atlas is represented as himself bearing the heavens with some part of his own body—head and hands or shoulders or back. This is the conception found in Hesiod, *Theogony* 517 sqq.:

Ἄτλας δ' οὐρανὸν εὐρὺν ἔχει κρατερῆς ὑπ' ἀνάγκης  
 πείρασιν ἐν γαίῃς, πρόπαρ Ἑσπερίδων λιγυφώνων,  
 ἐστῆώς κεφαλῇ τε καὶ ἀκαμάτησι χέρεσσιν.<sup>1</sup>

But in the *Odyssey* I. 52 sqq. there is a difference and his task is described thus:

ἔχει δέ τε κίονας αὐτὸς  
 μακρὰς αἰ γαῖάν τε καὶ οὐρανὸν ἀμφὶς ἔχουσι.

'Himself he upholds<sup>2</sup> the long pillars which keep earth and heaven apart.' Again in Aeschylus, *P.V.* 350 sqq., he supports upon his shoulders the pillar that sunders heaven from earth:

Ἄτλαντος, ὃς πρὸς ἐσπέρους τόπους  
 ἔστηκε κίον' οὐρανοῦ τε καὶ χθονὸς  
 ὧμοις ἐρείδων, ἄχθος οὐκ εὐάγκαλον.<sup>3</sup>

It seems that two originally incompatible ideas have gone to the making up of the picture which these two passages give. One idea was that of a giant bearing the heavens on his shoulders and so preventing them from falling down upon the earth; the other, originally separate, was that of sky-pillars or sky-props which held up the heavens just as in a house the pillars hold up the roof. An attempt to reconcile the two ideas produced the somewhat obscure conception of the giant supporting or upholding the pillar or pillars.<sup>4</sup> Now Atlas was later interpreted as symbolizing the axis of the cosmos. The earliest statement of this interpretation is found in Aristotle, *De motu animal.* 699a 27 sqq., οἱ δὲ μυθικῶς τὸν Ἄτλαντα ποιοῦντες ἐπὶ τῆς γῆς ἔχοντα τοὺς πόδας δόξαιεν ἂν ἀπὸ διανοίας εἰρηκέναι τὸν μῦθον, ὡς τοῦτον ὥσπερ

<sup>1</sup> Cf. *ib.* 746 sqq.; Aesch. *P.V.* 430; Eur. *Ion* 1; Apollodorus, *Bibl.* I. 8. 21 (Wagner). See Pauly-Wissowa, art. *Atlas*, p. 2122 *fin.*

<sup>2</sup> ἔχει=upholds, supports; cf. Butcher and Lang translation *ad loc.*, Merry and Riddell note *ad loc.* But an alternative interpretation is 'guards.' So O. Gruppe, *Griechische Mythologie u. Religionsgeschichte*, p. 382; art. *Atlas* in P.-W., p. 2123. But ἐρείδων in the Aeschylus passage is in favour of the former interpretation.

<sup>3</sup> The variation between the singular 'pillar' and the plural 'pillars' in the Atlas tradition is probably to be explained by a twofold notion of the supports of heaven. There is first the notion of a single sky-prop, for which the proper place is the centre of the flat earth. There is also the notion of heaven supported at its extremities on pillars four in number (Orphic *Εὐχὴ πρὸς Μουσαῖον* 39. κόσμον τε μέρη τετρακίονος αὐδῶ, cf. Ibycus ap. schol. on Ap. Rhod. III. 106); cf. *Zeus* II., pp. 125 sqq., p. 56, note 2. Dr. Cook (*op. cit.*, pp. 140 sqq.) holds that belief in a sky

resting on four pillars is not inconsistent with belief in one central prop. Both notions of the supports of heaven seem reflected in the Atlas legend. For not only does he in one instance support a single, in the other support several pillars, but he himself, while generally located at the extremities of the earth (Hes. *Theog.* 518, 746 sqq.; Aesch. *P.V.* 350; Eur. *Hipp.* 742 sqq.; Verg. *Aen.* IV. 481, VI. 795 sqq.; Apollodorus II. 120 [Wagner]), was in some versions at any rate placed in the middle of the earth under the central point of the overhanging heavens (Eur. *Herc. Fur.* 403 sqq.; cf. the island of Calypso, Atlas' daughter, described in *Od.* I. 50 as situated ὅθι ὀμφαλὸς ἐστὶ θαλάσσης).

<sup>4</sup> P.-W., p. 2123; cf. Gruppe, *op. cit.*, p. 382. When the stage of rationalization of legend is reached the blending of the two ideas is easy. Atlas is interpreted as a lofty mountain in North-West Africa, and the mountain is called κίων τοῦ οὐρανοῦ (Hdt. IV. 184).

διάμετρον ὄντα καὶ στρέφοντα τὸν οὐρανὸν περὶ τοὺς πόλους.<sup>1</sup> But this rationalization of Atlas was probably much earlier than Aristotle. Delatte<sup>2</sup> attributes it to the Pythagoreans; and in view not only of the Pythagorean conception of the spherical form of the universe, but of the interest of the same thinkers in the interpretation of mythology, and especially Homeric legend, his opinion seems in the highest degree probable.

If Atlas was interpreted as the axis, his pillar, the original sky-pillar, lent itself, of course, to the same interpretation. Now we have express testimony in Eustathius' commentary on the *Odyssey*<sup>3</sup> that some of the ancients thus interpreted Atlas' pillars and that they also believed that Plato was thinking of Atlas and his pillar or pillars when he spoke of the straight pillar-like light.<sup>4</sup> Some, says Eustathius, in their explanation of Atlas in *Od.* I. 52, τὸν νοητὸν ἄξονα νοοῦσι τὸν διὰ μέσης τῆς γῆς ἐληλαμένον. καὶ ἀπὸ τοῦ βορείου εἰς τὸν νότιον πόλον καθήκοντα. περὶ δὲ . . . οὐρανὸς εἰλεῖται. εὐθείαν ἀσώματόν τινα ὄντα καὶ ἀόρατον, συνεκτικὴν τοῦ παντός. ὥς συνεχῆς μὲν ἐστὶ κατὰ τὴν ὁλότητα καὶ εἰς. διὸ καὶ Αἰσχύλος ἐν Προμηθεΐ, κίονα εἶπεν ἐνικῶς καὶ οὐ κίονας. ἄλλως δὲ εἰς δύο διαιρούμενος κατὰ τε τὸ ὑπόγειον αὐτοῦ καὶ τὸ ὑπέργειον, κίωνων πέμπει τινὰ ταύτην φαντασίαν. ἐφ' αἷς κίουσιν ἡ γῆ τε οἶον βέβηκε, καὶ οὐρανὸς ὑπανέχεται. Then after some lofty interpretations of Calypso and Ulysses he sums up: καὶ οὕτω μὲν τὸν Ἀτλαντα καὶ τοὺς ἀχθοφορομένους ὑπ' αὐτοῦ κίονας εἰς τὸν κοσμικὸν ἔστι μεταλαμβάνειν ἄξονα. ὃν κίονα καὶ ὁ Πλάτων καλεῖ, τὸ ὄνομα παρ' Ὁμήρου λαβών.

Thus then Dr. Cook's interpretation of the pillar of light in the myth of Er as a form of the sky-pillar is supported by an ancient tradition which connected Plato's pillar of light with the pillar or pillars of Atlas, themselves, as we have seen, sky-pillars.<sup>5</sup>

It remains now to bring into connexion with each other the conception of

<sup>1</sup> For evidence of the same interpretation see Scholia on Hes. *Theog.* 507, 509, 517, Aesch. *P.V.* 428 and Eur. *Hipp.* 747; and compare Hesychius, Ἀτλας· ἀτολμος, ἀπαθής, καὶ ἡ δι' οὐσὰ εὐθεία ἕως τῶν πόλων, and the passage of Eustathius quoted below.

<sup>2</sup> *Études sur la Littérature Pythagoricienne*, p. 124, where he quotes the passage from Eustathius which is given below

<sup>3</sup> 1389. 59.

<sup>4</sup> Cf. Procl. in *Remp. comm.* II., p. 200. 5 sqq., Kroll.

<sup>5</sup> In view of Dr. Cook's most interesting thesis that the omphalos at Delphi, which marked the centre of the earth, was originally topped by a pillar symbolizing the sky-god and representing the central support of the sky (*Zeus* II., pp. 169 sqq.), a passage from the myth of Thespesius of Soli in Plutarch, *De ser. num. uind.* 566D, raises some interesting conjectures. This myth is on many grounds comparable with the myth of Er, and like it is full of Orphic-Pythagorean doctrine. Now when Thespesius, whose wanderings

in the world of the dead appear to be entirely aerial and celestial (Stewart, *Myths of Plato*, p. 379), had seen the plain of Lethe and the great mixing-bowl which his guide informed him was the oracle of Night and the Moon, he was not able to rise yet further and view the true oracle of Apollo situated higher in the heavens; but his guide tried to show him, though without success, τὸ φῶς ἐκ τοῦ τρίποδος . . . (i.e. the tripod of the celestial oracle of Apollo) διὰ τῶν κόλπων τῆς Θέμιδος ἀπεριεῖδμενον εἰς τὸν Πάρνασον. The light reaches down from the sky, and passing through the womb of Themis is set in Parnassus—i.e. in the earthly Delphi. In view of the general similarity between the two myths, and in view further of the interest of the Pythagoreans in Delphi, is it too bold to suppose that the light here and the straight light like a pillar in the myth of Er are one and the same, and that both conceptions go back ultimately to the notion of the sky-god's column which stretches from the heaven, which it supports, down to earth, in which its base is set?

the sky-pillar and the conception of the world-soul, which we saw to have been the main idea which Plato intended to express by his picture of the light.

In the first place the two conceptions are harmonious. Soul is here represented as a force that binds and holds together the world. The sky-pillar is essentially that which upholds and sustains. The conception of the sky-pillar in the form of an axis of light is then not intrusive upon, or disturbing to, the conception of soul as fire holding together and maintaining the world.

In the second place it is to be observed that in the notion of the world-soul regarded as fire or light lies the explanation of the fact that the sky-god's pillar, represented in cult by stone or wood, has come to have its substance transmuted and to appear as a pillar of light. With increasing knowledge of astronomical fact the sky-pillar, as was shown above, became converted into the cosmic axis. That is perfectly comprehensible. But why then should the axis come to be conceived of as made of light- or fire-substance instead of being regarded as a line? I suggest that the answer to this question is that the conception of an axis of light may have been a Pythagorean doctrine, originating in the fundamental conception, discussed above, of light and fire within the earth combined with a girdle of fire and light completely encompassing the heavens. The axis of light is, in fact, a continuation of the fire within the earth, meant to connect it with the fiery girdle that surrounds the cosmos, so that the fire or light which is essential to the life of the world shall be wrapped not only completely round but also all through the body of the world.<sup>1</sup> The central fire, in fact, pierces the earth completely<sup>2</sup> and then shoots up in a pillar of light both to the north and south poles, there meeting the fire of the periphery. This, it may be objected, is a strange conception of the Pythagorean central fire and one for which no evidence will easily be found in other accounts of Pythagorean doctrine. Yet it is to be observed that among the names of the monad (=central fire) preserved in the *Theologumena Arithmetica* of the late Pythagorean Nicomachus of Gerasa occur both Ἀτλας and also ἄξων;<sup>3</sup> and it may not be altogether fanciful to suppose that the epithet Ζηνὸς πύργος for the central fire, for which we have the excellent evidence of Aristotle,<sup>4</sup> has some connexion with the pillar of the sky-god. At any rate, both this epithet and those which correspond to it, such as Διὸς φυλακή,<sup>5</sup> Διὸς θρόνος<sup>6</sup> and Διὸς οἶκος,<sup>7</sup> point to connexions of the central fire with the sky-god as well as the earth; and these connexions lend some support to the theory that the central fire may have been regarded as flaming

<sup>1</sup> Cf. again *Timaeus* 34B: ψυχὴν εἰς τὸ μέσον αὐτοῦ θεὸς διὰ παντός τε ἔτεινεν καὶ ἐτι ἔξωθεν τὸ σῶμα αὐτῇ περιεκάλυπεν.

<sup>2</sup> The channel by which it passes is χάσμα διαμπερὲς τετρημένον like the χάσμα which forms Plato's Tartarus in the *Phaedo* myth 112A.

<sup>3</sup> Nicomachus of Gerasa, *ap. Phot. bibl.*, p. 143A 30 sqq. . . . καὶ Ἀτλαντα (αὐτὴν τερατολογούσι)· ἄξων τέ ἐστιν αὐτοῖς καὶ ἥλιος καὶ πυράλιος καὶ μορφῶ δὲ καὶ Ζηνὸς πύργος, καὶ σπερματίτης λόγος, Ἀπόλλων τε καὶ προφήτης καὶ λόγιος. Delatte

says with regard to this reference (*op. cit.*, p. 143), 'ἄξων désigne en effet le même être qu'Atlas,' quoting the passage from Eustathius given above.

<sup>4</sup> Fr. 204 (Rose), from *Simpl. comm. in De Cael.* (Heiberg, p. 51). Note that this occurs in the same passage which vouches for the Pythagorean doctrine of a central fire hidden in the heart of a central earth.

<sup>5</sup> Arist. *De Cael.* II. 13. 293b 2.

<sup>6</sup> *Simpl. l.c.*

<sup>7</sup> *Aet.* II. 7. 7 (opinions of Philolaos).

upwards and outwards from the earth<sup>1</sup> and may have eventually come to be shaped into the form of a cosmic axis.

My conclusion then is that in his picture of the light in the myth of Er Plato meant to represent the world-soul, and that he borrowed for this purpose a Pythagorean doctrine of the world-soul, regarded in material terms as central fire and fire of the periphery, a doctrine for which there is evidence in Parmenides' Way of Opinion. There is no evidence in the fragments of Parmenides for the axis of light, which in Plato's picture unites the fire of the centre with the fire of the circumference. But the axis of light, in that it itself represents a sustaining force and further serves the purpose of uniting the central with the circumambient fire, is a conception which completely harmonizes with the idea of soul as completely enveloping and intimately penetrating the universe, the idea expressed in the *Timaeus*. Further it is not impossible, in spite of the absence of evidence from Parmenides, that the axis of light may itself have been a Pythagorean notion, a conception developed in some part of the Pythagorean school, at some period of its history previous to Plato, out of the original conception of a central fire.<sup>2</sup>

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<sup>1</sup> See Preuner in art. *Hestia* in Roscher, p. 2620, in the section where Hestia is discussed in her capacity as goddess of the sacred fire: 'Ohne Zweifel haben wir es hier mit einer indogermanischen religiösen Grundanschauung zu thun, wonach das Feuer in der aufsteigenden Flamme und dem zum Himmel aufwirbelnden Rauch die Gaben der Menschen, die in ihm verbrannt wurden, zu den Himmlischen, vor allem zum Himmels-gott selbst, zu Zeus, hinaufzutragen scheint.' Might this conception of the flame mounting into the sky have been transferred to the Pythagorean Hestia or Central Fire?

<sup>2</sup> An interesting parallel may in conclusion be noted. Dr. A. B. Cook has called my attention to the striking likeness between the Pythagorean circumambient Ananke and the Egyptian sky-

goddess Nut, who is represented as with her own body forming the arch of the sky (see fig. 34 in A. Erman, *Handbook of Egyptian Religion* (trans. Griffiths), p. 29; and Lanzone, *Dizionario di Mitologia Egizia*, Tav. CLVI. sqq.). Moreover, Egyptian mythology said that originally 'Nut still lay upon her brother Keb (the earth). Therefore her father Shu thrust himself between them and raised her into the heights, and with her he raised into the heights all the gods that had hitherto been created, and Nut took possession of them, counted them, and made them into stars' (Erman, *l.c.*). If Nut resembles Ananke, then Shu resembles Atlas, and we seem to have an extraordinarily close parallel to the Pythagorean conception which united the goddess of the circumambient fire with Atlas and his pillar.