

# CHAPTER IV., PARMENIDES OF ELEA

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#### 84. Life of Parmenides

PARMENIDES, son of Pyres, was a citizen of Hyele, Elea, or Velia, a colony founded in Oinotria by refugees from Phokaia in 540-39 B.C.<sup>1</sup> Diogenes tells us that he "flourished" in Ol. LXIX. (504-500 B.C.), and this was doubtless the date given by Apollodoros.<sup>2</sup> On the other hand, Plato says that Parmenides came to Athens in his sixty-fifth year, accompanied by Zeno, and conversed with Sokrates, who was then quite young. Now Sokrates was just over seventy when he was put to death in 399 B.C.; and therefore, if we suppose him to have been an *ephebos*, that is, from eighteen to twenty years old, at the time of his interview with Parmenides, we get 451-449 B.C. as the date of that event. It is quite uncritical to prefer the estimate of Apollodoros to Plato's express statement,<sup>3</sup> especially as Parmenides himself speaks of visiting "all towns,"<sup>4</sup> and we have independent evidence of the visit of Zeno to Athens, where Perikles is said to have [1/170] "heard" him.<sup>5</sup> The date given by Apollodoros depends solely on that of the foundation of Elea (540 B.C.), which he had adopted as the *floruit* of Xenophanes. Parmenides is born in that year, just as Zeno is born in the year when Parmenides "flourished." I do not understand how any one can attach importance to such combinations.

We have seen (§55) that Aristotle mentions a statement which made Parmenides a disciple of Xenophanes; but it is practically certain that the statement referred to is only Plato's humorous remark in the *Sophist*, which we have dealt with already.<sup>6</sup> Xenophanes tells us himself that, in his ninety-second year, he was still wandering up and down (fr. 8). At that time Parmenides would be well advanced in life. And we must not overlook the statement of Sotion, preserved by Diogenes, that, though Parmenides "heard" Xenophanes, he did not "follow" him. He was really the "associate" of a Pythagorean, Ameinias, son of Diochaitas, "a poor but noble man to whom he afterwards built a shrine as to a hero." It was Ameinias and not Xenophanes that "converted" Parmenides to the philosophic life.<sup>7</sup> This does not read like an invention. The shrine erected by Parmenides would still be there in later days, like the grave of Pythagoras at Metapontion, and would have a dedicatory inscription. It should also be mentioned that Strabo describes Parmenides and Zeno as Pythagoreans, and that Kebes talks of a "Parmenidean and Pythagorean way of life."<sup>8</sup> It is certain, moreover, that the opening of the poem of Parmenides is an allegorical description of his conversion from some form of error to what he held to be the truth, and that it is thrown into the form of an Orphic apocalypse.<sup>9</sup> That would be quite natural if he had been a Pythagorean in his early days, so we need not hesitate to accept the tradition that he had. As regards the relation of Parmenides to the Pythagorean system, we shall have something to say

later. At present we need only note that, like most of the older philosophers, he took part in politics; and Speusippos recorded that he legislated for his native city. Others add that the magistrates of Elea made the citizens swear every year to abide by the laws Parmenides had given them.<sup>10</sup>

#### 85. The Poem

Parmenides was the first philosopher to expound his system in metrical language. His predecessors, Anaximander, Anaximenes, and Herakleitos, wrote in prose, and the only Greeks who ever wrote philosophy in verse at all were just these two, Parmenides and Empedokles; for Xenophanes was not a philosopher any more than Epicharmos. Empedokles copied Parmenides; and he, no doubt, was influenced by the Orphics. But the thing was an innovation, and one that did not maintain itself.

The fragments of Parmenides are preserved for the most part by Simplicius, who fortunately inserted them in his commentary, because in his time the original work was already rare.<sup>11</sup> I follow the arrangement of Diels.

(1) The car that bears me carried me as far as ever my heart desired, when it had brought me and set me on the renowned way of the goddess, which leads the man who knows through all the towns.<sup>12</sup> On that way was I borne along; for on it did the wise steeds carry me, drawing my car, and maidens showed the way. And the axle, glowing in the socket—for it was urged round by the whirling wheels at each end—gave forth a sound as of a pipe, when the daughters of the Sun, hasting to convey me into the light, threw back their veils from off their faces and left the abode of Night.

There are the gates of the ways of Night and Day,<sup>13</sup> fitted above with a lintel and below with a threshold of stone. They themselves, high in the air, are closed by mighty doors, and Avenging Justice keeps the keys that fit them. Her did the maidens entreat with gentle words and cunningly persuade to unfasten without demur the bolted bars from the gates. Then, when the doors were thrown back, they disclosed a wide opening, when their brazen posts fitted with rivets and nails swung back one after the other. Straight through them, on the broad way, did the maidens guide the horses and the car, and the goddess greeted me kindly, and took my right hand in hers, and spake to me these words:

Welcome, O youth, that comest to my abode on the car that bears thee tended by immortal charioteers! It is no ill chance, but right and justice that has sent thee forth to travel on this way. Far, indeed, does it lie from the beaten track of men! Meet it is that thou shouldst learn all things, as well the unshaken heart of well-rounded truth, as the opinions of mortals in which is no true belief at all. Yet none the less shalt thou learn these things also,—how passing right through all things one should judge the things that seem to be.<sup>14</sup>

But do thou restrain thy thought from this way of inquiry, nor let habit by its much experience force thee to cast upon this way a wandering eye or sounding ear or tongue; but judge by argument<sup>15</sup> the much disputed proof uttered by me. There is only one way left that can be spoken of . . . . R. P. 113.

## THE WAY OF TRUTH

(2) Look steadfastly with thy mind at things though afar as if they were at hand. Thou canst not cut off what is from holding fast to what is, neither scattering itself abroad in order nor coming together. R. P. 118 a.

(3) It is all one to me where I begin; for I shall come back again there.

(4, 5) Come now, I will tell thee—and do thou hearken to my saying and carry it away—the only two ways of search that can be thought of. The first, namely, that *It is*, and that it is impossible for it not to be, is the way of belief, for truth is its companion. The other, namely, that *It is not*, and that it must needs not be,—that, I tell thee, is a path that none can learn of at all. For thou canst not know what is not—that is impossible—nor utter it; for it is the same thing that can be thought and that can be.<sup>16</sup> R. P. 114.

(6) It needs must be that what can be spoken and thought *is*; for it is possible for it to be, and it is not possible for what is nothing to be.<sup>17</sup> This is what I bid thee ponder. I hold thee back from this first way of inquiry, and from this other also, upon which mortals knowing naught wander two-faced; for helplessness guides the wandering thought in their breasts, so that they are borne along stupefied like men deaf and blind. Undiscerning crowds, who hold that it is and is not the same and not the same,<sup>18</sup> and all things travel in opposite directions!<sup>19</sup> R. P. 115.

(7) For this shall never be proved, that the things that are not are; and do thou restrain thy thought from this way of inquiry. R. P. 116.

(8) One path only is left for us to speak of, namely, that *It is*. In this path are very many tokens that what is is uncreated and indestructible; for it is complete,<sup>20</sup> immovable, and without end. Nor was it ever, nor will it be; for now it is, all at once, a continuous [175] one. For what kind of origin for it wilt thou look for? In what way and from what source could it have drawn its increase? . . . I shall not let thee say nor think that it came from what is not; for it can neither be thought nor uttered that anything is not. And, if it came from nothing, what need could have made it arise later rather than sooner? Therefore must it either be altogether or be not at all. Nor will the force of truth suffer aught to arise besides itself from that which is not. Wherefore, justice doth not loose her fetters and let

anything come into being or pass away, but holds it fast. Our judgment thereon depends on this: "*Is it or is it not?*" Surely it is adjudged, as it needs must be, that we are to set aside the one way as unthinkable and nameless (for it is no true way), and that the other path is real and true. How, then, can what *is* be going to be in the future? Or how could it come into being? If it came into being, it is not; nor is it if it is going to be in the future. Thus is becoming extinguished and passing away not to be heard of. R. P. 117.

Nor is it divisible, since it is all alike, and there is no more<sup>21</sup> of it in one place than in another, to hinder it from holding together, nor less of it, but everything is full of what is. Wherefore it is wholly continuous; for what is, is in contact with what is.

Moreover, it is immovable in the bonds of mighty chains, without beginning and without end; since coming into being and passing away have been driven afar, and true belief has cast them away. It is the same, and it rests in the self-same place, abiding in itself. And thus it remaineth constant in its place; for hard necessity keeps it in the bonds of the limit that holds it fast on every side. Wherefore it is not permitted to what is to be infinite; for it is in need of nothing; while, if it were infinite, it would stand in need of everything.<sup>22</sup> R. P. 118.

The thing that can be thought and that for the sake of which the thought exists is the same,<sup>23</sup> for you cannot find thought without something that is, as to which it is uttered.<sup>24</sup> And there is not, and never shall be, anything besides what is, since fate has chained it so as to be whole and immovable. Wherefore all these things are but names which mortals have given, believing them to be true—coming into being and passing away, being and not being, change of place and alteration of bright colour. R. P. 119.

Since, then, it has a furthest limit, it is complete on every side, like the mass of a rounded sphere, equally poised from the centre in every direction; for it cannot be greater or smaller in one place than in another. For there is no nothing that could keep it from reaching out equally, nor can aught that is be more here and less there than what is, since it is all inviolable. For the point from which it is equal in every direction tends equally to the limits. R. P. 121.

## **THE WAY OF BELIEF**

Here shall I close my trustworthy speech and thought about the truth. Henceforward learn the beliefs of mortals, giving ear to the deceptive ordering of my words.

Mortals have made up their minds to name two forms, one of which they should not name, and that is where they go astray from the truth. They have distinguished them as opposite in form, and have

assigned to them marks distinct from one another. To the one they allot the fire of heaven, gentle, very light, in every direction the same as itself, but not the same as the other. The other is just the opposite to it, dark night, a compact and heavy body. Of these I tell thee the whole arrangement as it seems likely; for so no thought of mortals will ever outstrip thee. R. P. 121.

(9) Now that all things have been named light and night, and the names which belong to the power of each have been assigned to these things and to those, everything is full at once of light and dark night, both equal, since neither has aught to do with the other.

(10, 11) And thou shalt know the substance of the sky, and all the signs in the sky, and the resplendent works of the glowing sun's pure torch, and whence they arose. And thou shalt learn likewise of the wandering deeds of the round-faced moon, and of her substance. Thou shalt know, too, the heavens that surround us, whence they arose, and how Necessity took them and bound them to keep the limits of the stars . . . how the earth, and the sun, and the moon, and the sky that is common to all, and the Milky Way, and the outermost Olympos, and the burning might of the stars arose. R. P. 123, 124.

(12) The narrower bands were filled with unmixed fire, and those next them with night, and in the midst of these rushes their portion of fire. In the midst of these is the divinity that directs the course of all things; for she is the beginner of all painful birth and all begetting, driving the female to the embrace of the male, and the male to that of the female. R. P. 125.

(13) First of all the gods she contrived Eros. R. P. 125.

(14) Shining by night with borrowed light,<sup>25</sup> wandering round the earth.

(15) Always looking to the beams of the sun.

(16) For just as thought stands at any time to the mixture of its erring organs, so does it come to men; for that which thinks is the same, namely, the substance of the limbs, in each and every man; for their thought is that of which there is more in them.<sup>26</sup> R. P. 128.

(17) On the right boys; on the left girls.<sup>27</sup>

(19) Thus, according to men's opinions, did things come into being, and thus they are now. In time they will grow up and pass away. To each of these things men have assigned a fixed name. R. P. 129 b.

86. "It Is"

In the First Part of his poem, we find Parmenides chiefly interested to prove that *it is*; but it is not quite obvious at first sight what it is precisely that *is*. He says simply, *What is, is*. There can be no real doubt that this is what we call body. It is certainly regarded as spatially extended; for it is quite seriously spoken of as a sphere (fr. 8, 43). Moreover, Aristotle tells us that Parmenides believed in none but a sensible reality.<sup>28</sup> Parmenides does not say a word about "Being" anywhere,<sup>29</sup> and it is remarkable that he avoids the term "god," which was so freely used by earlier and later thinkers. The assertion that *it is* amounts just to this, that the universe is a *plenum*; and that there is no such thing as empty space, either inside or outside the world. From this it follows that there can be no such thing as motion. Instead of endowing the One with an impulse to change, as Herakleitos had done, and thus making it capable of explaining the world, Parmenides dismissed change as an illusion. He showed once for all that if you take the One seriously you are bound to deny everything else. All previous solutions of the question, therefore, had missed the point. Anaximenes, who thought to save the unity of the primary substance by his theory of rarefaction and condensation, did not observe that, by assuming there was less of what is in one place than another, he virtually affirmed the existence of what is not (fr. 8, 45). The Pythagorean explanation implied that empty space or air existed outside the world, and that it entered into it to separate the units (§ 53). It, too, assumes the existence of what is not. Nor is the theory of Herakleitos any more satisfactory; for it is based on the contradiction that fire both is and is not (fr. 6).

The allusion to Herakleitos in the verses last referred to has been doubted, though upon insufficient grounds. Zeller points out quite rightly that Herakleitos never says Being and not-Being are the same (the old translation of fr. 6, 8); and, were there nothing more than this, the reference might well seem doubtful. The statement, however, that, according to the view in question, "all things travel in opposite directions," can hardly be understood of anything but the "upward and downward path" of Herakleitos (§ 71). And, as we have seen, Parmenides does not attribute the view that Being and not-Being are the same to the philosopher whom he is attacking; he only says that *it is* and is not the same and not the same.<sup>30</sup> That is the natural meaning of the words; and it furnishes a very accurate description of the theory of Herakleitos.

#### 87. The Method of Parmenides

The great novelty in the poem of Parmenides is the method of argument. He first asks what is the common presupposition of all the views he has to deal with, and he finds that this is the existence of what is not. The next question is whether this can be thought, and the answer is that it cannot. If you think at all, you must think of something. Therefore there is no nothing. Only that can be which can be thought (fr. 5); for thought exists for the sake of what is (fr. 8, 34).

This method Parmenides carries out with the utmost rigour. He will not have us pretend that we think what we must admit to be unthinkable. It is true that if we resolve to allow nothing but what we can understand, we come into direct conflict with our senses, which present us with a world of change and decay. So much the worse for the senses, says Parmenides. That is the inevitable outcome of a corporeal monism, and this bold declaration of it ought to have destroyed that theory for ever. If Parmenides had lacked courage to work out the prevailing views of his time to their logical conclusion, and to accept that conclusion, however paradoxical it might appear, men might have gone on in the endless circle of opposition, rarefaction, and condensation, one and many, for ever. It was the thorough-going dialectic of Parmenides that made progress possible. Philosophy must now cease to be monistic or cease to be corporealist. It could not cease to be corporealist; for the incorporeal was still unknown. It therefore ceased to be monistic, and arrived ultimately at the atomic theory, which, so far as we know, is the last word of the view that the world is body in motion.<sup>31</sup>

#### 88. The Results

Parmenides goes on to develop all the consequences of the admission that *it is*. It must be uncreated and indestructible. It cannot have arisen out of nothing; for there is no such thing as nothing. Nor can it have arisen from something; for there is no room for anything but itself. What *is* cannot have beside it any empty space in which something else might arise; for empty space is nothing, nothing cannot be thought, and therefore cannot exist. What *is* never came into being, nor is anything going to come into being in the future. "Is it or is it not?" If it is, then it is now, all at once.

That this is a denial of the existence of empty space was well known to Plato. He says Parmenides held "all things were one, and that the one remains at rest in itself, *having no place in which to move*."<sup>32</sup> Aristotle is no less clear. He lays down that Parmenides was driven to take up the position that the One was immovable just because no one had yet imagined there was any reality other than the sensible.<sup>33</sup>

That which is, *is*; and it cannot be more or less. There is, therefore, as much of it in one place as in another, and the world is a continuous, indivisible *plenum*. From this it follows at once that it must be immovable. If it moved, it must move into an empty space, and there is no empty space. It is hemmed in by *what is*, by the real, on every side. For the same reason, it must be finite, and can have nothing beyond it. It is complete in itself, and has no need to stretch out indefinitely into an empty space that does not exist. Hence, too, it is spherical. It is equally real in every direction, and the sphere is the only form that meets this condition. Any other would *be* in one direction more than in another.

#### 89. Parmenides, the Father of Materialism

To sum up. What *is*, is a finite, spherical, motionless corporeal *plenum*, and there is nothing beyond it. The appearances of multiplicity and motion, empty space and time, are illusions. We see from this that the primary substance of which the early cosmologists were in search has now become a sort of "thing in itself." It never quite lost this character again. What appears later as the elements of Empedokles, the so-called "homoeomeries" of Anaxagoras and the atoms of Leukippos and Demokritos, is just the Parmenidean "being." Parmenides is not, as some have said, the "father of idealism"; on the contrary, all materialism depends on his view of reality.

#### 90. The Beliefs of "Mortals"

It is commonly held that, in the Second Part of his poem, Parmenides offered a dualistic theory of the origin of things as his own conjectural explanation of the sensible world, or that, as Gomperz says, "What he offered were the Opinions of Mortals; and this description did not merely cover other people's opinions. It included his own as well, as far as they were not confined to the unassailable ground of an apparent philosophical necessity."<sup>34</sup> Now it is true that in one place Aristotle appears to countenance a view of this sort, but nevertheless it is an anachronism.<sup>35</sup> Nor is it really Aristotle's view. He was well aware that Parmenides did not admit the existence of "not-being" in any degree whatever; but it was a natural way of speaking to call the cosmology of the Second Part of the poem that of Parmenides. His hearers would understand in what sense this was meant. At any rate, the Peripatetic tradition was that Parmenides, in the Second Part of the poem, meant to give the belief of "the many." This is how Theophrastos put the matter, [183] and Alexander seems to have spoken of the cosmology as something which Parmenides himself regarded as wholly false.<sup>36</sup> The other view comes from the Neoplatonists, and especially Simplicius, who regarded the Way of Truth as an account of the intelligible world, and the Way of Opinion as a description of the sensible. It need hardly be said that this is almost as great an anachronism as the Kantian parallelism suggested by Gomperz.<sup>37</sup> Parmenides himself tells us in the most unequivocal language that there is no truth at all in the theory which he expounds, and that he gives it merely as the belief of "mortals." It was this that led Theophrastos to speak of it as the opinion of "the many."

His explanation however, though preferable to that of Simplicius, is not convincing either. "The many" are as far as possible from believing in an elaborate dualism such as Parmenides expounded, and it is a highly artificial hypothesis to assume that he wished to show how the popular view of the world could best be systematised. "The many" would hardly be convinced of their error by having their beliefs presented to them in a form they would certainly fail to recognise them in. This, indeed, seems the most incredible interpretation of all. It still, however, finds adherents, so it is necessary to point out that the beliefs in question are only called "the opinions of mortals" for the very simple reason that the speaker is a goddess. Further, we have to note that Parmenides forbids two ways of research, and we

have seen that the second of these, which is also expressly ascribed to "mortals," must be the system of Herakleitos. We should expect, then, to find that the other way is also the system of some contemporary school, and it seems hard to discover any of sufficient importance at this date except the Pythagorean. Now it is admitted by every one that there are Pythagorean ideas in the Second Part of the poem, and it is therefore to be presumed, in the absence of evidence to the contrary, that the whole of its cosmology comes from the same source. It does not appear that Parmenides said any more about Herakleitos than the words to which we have just referred, in which he forbids the second way of inquiry. He implies, indeed, that there are really only two ways that can be thought of, and that the attempt of Herakleitos to combine them was futile.<sup>38</sup> In any case, the Pythagoreans were far more serious opponents at that date in Italy, and it is certainly to them that we should expect Parmenides to define his attitude.

It is still not quite clear, however, why he should have thought it worth while to put into hexameters a view he believed to be false. Here it becomes important to remember that he had been a Pythagorean himself, and that the poem is a renunciation of his former beliefs. In the introductory verses, he tells us distinctly that he has passed from darkness into the light. In such cases men commonly feel the necessity of showing where their old views were wrong. The goddess tells him that he must learn of those beliefs also "how one ought to pass right through all things and judge the things that seem to be." We get a further hint in another place. He is to learn these beliefs, "and so no opinion of mortals will ever get the better of him " (fr. 8, 61). If we remember that the Pythagorean system at this time was handed down by oral tradition alone, we shall see what this may mean. Parmenides was founding a dissident school, and it was necessary for him to instruct his disciples in the system they might be called upon to oppose. In any case, they could not reject it intelligently without a knowledge of it, and this Parmenides had to supply himself.<sup>39</sup>

#### 91. The Dualist Cosmology

The view that the Second Part of the poem of Parmenides was a sketch of contemporary Pythagorean cosmology is, doubtless, incapable of rigorous demonstration, but it can be made extremely probable. The entire history of Pythagoreanism up to the end of the fifth century B.C. is certainly conjectural; but, if we find in Parmenides ideas wholly unconnected with his own view of the world, and if we find precisely the same ideas in later Pythagoreanism, the most natural inference will be that the later Pythagoreans derived these views from their predecessors, and that they formed part of the original stock-in-trade of the society. This will be confirmed if we find that they are developments of certain features in the old Ionian cosmology. Pythagoras came from Samos, and it was not, so far as we can see, in his cosmological views that he chiefly displayed originality. It has been pointed out (§ 53) that the idea of the world breathing came from Anaximenes, and we need not be

surprised to find traces of Anaximander too. Now, if we were confined to what Aristotle tells us on this subject, it would be hard to make out a case; but his statements require, as usual, to be examined with care. He says, first of all, that the two elements of Parmenides were the Warm and the Cold.<sup>40</sup> In this he is so far justified by the fragments that, since the Fire of which Parmenides speaks is, of course, warm, the other "form," which has all the opposite qualities, must of necessity be cold. Here, then, we have the traditional "opposites" of the Milesians. Aristotle's identification of these with Fire and Earth is, however, misleading, though Theophrastos followed him in it.<sup>41</sup> Simplicius, who had the poem before him (§ 85), after mentioning Fire and Earth, at once adds "or rather Light and Darkness";<sup>42</sup> and this is suggestive. Lastly, Aristotle's identification of the dense element with "what is not,"<sup>43</sup> the unreal of the First Part of the poem, is not easy to reconcile with the view that it is earth. On the other hand, if we suppose that the second of the two "forms," the one which should not have been "named," is the Pythagorean Air or Void, we get a very good explanation of Aristotle's identification of it with "what is not." We seem, then, to be justified in neglecting the identification of the dense element with earth for the present. At a later stage, we shall be able to see how it may have originated.<sup>44</sup> The further statement of Theophrastos, that the Warm was the efficient cause and the Cold the material or passive,<sup>45</sup> is not, of course, to be regarded as historical.

We have seen that Simplicius, with the poem of Parmenides before him, corrects Aristotle by substituting Light and Darkness for Fire and Earth, and he is amply borne out by the fragments he quotes. Parmenides himself calls one "form" Light, Flame, and Fire, and the other Night, and we have now to consider whether these can be identified with the Pythagorean Limit and Unlimited. We have seen good reason to believe (§ 5-8) that the idea of the world breathing belonged to the earliest form of Pythagoreanism, and there can be no difficulty in identifying this "boundless breath" with Darkness, which stands very well for the [187] Unlimited. "Air" or mist was always regarded as the dark element.<sup>46</sup> And that which gives definiteness to the vague darkness is certainly light or fire, and this may account for the prominence given to that element by Hippasos.<sup>47</sup> We may probably conclude, then, that the Pythagorean distinction between the Limit and the Unlimited, which we shall have to consider later (Chap. VII.), made its first appearance in this crude form. If, on the other hand, we identify darkness with the Limit, and light with the Unlimited, as many critics do, we get into insuperable difficulties.

## 92. The Heavenly Bodies

We must now look at the general cosmical view expounded in the Second Part of the poem. The fragments are scanty, and the doxographical tradition hard to interpret; but enough remains to show that here, too, we are on Pythagorean ground. Aetios says:

Parmenides held that there were bands crossing one another<sup>48</sup> and encircling one another, formed of the rare and the dense element respectively, and that between these there were other mixed bands made up of light and darkness. That which surrounds them all was solid like a wall, and under it is a fiery band. That which is in the middle of all the bands is also solid, and surrounded in turn by a fiery band. The central circle of the mixed bands is the cause of movement and becoming to all the rest. He calls it "the goddess who directs their course," "the Holder of Lots," and "Necessity."—Aet. ii. 7. r (R. P. 126).

### 93. The Stephanæ

Now it is quite unjustifiable to regard these "bands" as spheres. The word *στέφαναι* can mean "rims" or "brims" or anything of that sort,<sup>49</sup> but it seems incredible that it should be used of spheres. It does not appear, either, that the solid circle which surrounds all the crowns is to be regarded as spherical. The expression "like a wall" would be highly inappropriate in that case.<sup>50</sup> We seem, then, to be face to face with something like the "wheels" of Anaximander, and it is highly probable that Pythagoras adopted the theory from him.. Nor is evidence lacking that the Pythagoreans did regard the heavenly bodies in this way. In Plato's Myth of Er, which is certainly Pythagorean in its general character, we do not hear of spheres, but of the "lips" of concentric whorls fitted into one another like a nest of boxes.<sup>51</sup> In the *Timæus* there are no spheres either, but bands or strips crossing each other at an angle.<sup>52</sup> Lastly, in the Homeric *Hymn to Ares*, which seems to have been composed under Pythagorean influence, the word used for the orbit of the planet is ἄντυξ, which must mean "rim."<sup>53</sup>

The fact is, there is no evidence that any one ever adopted the theory of celestial spheres, till Aristotle turned the geometrical construction which Eudoxos had set up as a hypothesis "to save appearances" (*σώζειν τὰ φαινόμενα*) [/189] into real things.<sup>54</sup> At this date, spheres would not have served to explain anything that could not be explained more simply without them.

We are next told that these "bands" encircle one another or are folded over one another, and that they are made of the rare and the dense element. We also learn that between them are "mixed bands" made up of light and darkness. Now it is to be observed, in the first place, that light and darkness are exactly the same thing as the rare and the dense, and it looks as if there was some confusion here. It may be doubted whether these statements are based on anything else than fr. 12, which might certainly be interpreted to mean that between the bands of fire there were bands of night with a portion of fire in them. That may be right; but I think it rather more natural to understand the passage as saying that the narrower circles are surrounded by wider circles of night, and that each has its portion of fire rushing in the midst of it. These last words would then be a simple repetition of the

statement that the narrower circles are filled with unmixed fire,<sup>55</sup> and we should have a fairly exact description of the "wheels" of Anaximander.

#### 94. The Goddess

"In the middle of those," says Parmenides, "is the goddess who steers the course of all things." Aetios explains this to mean in the middle of the "mixed bands," while Simplicius declares that it means in the middle of all the bands, that is to say, in the centre of the world.<sup>56</sup> It is not likely that either of them had anything better to go upon than the words of Parmenides himself, and these are ambiguous. Simplicius, as is clear from the language he uses, identified this goddess with the Pythagorean Hestia or central fire, while Theophrastos could not do that, because he knew and stated that Parmenides described the earth as round and in the centre of the world.<sup>57</sup> In this very passage we are told that what is in the middle of all the bands is solid. The data furnished by Theophrastos, in fact, exclude the identification of the goddess with the central fire altogether. We cannot say that what is in the middle of all the bands is solid, and that under it there is again a fiery band.<sup>58</sup> Nor does it seem fitting to relegate a goddess to the middle of a solid spherical earth.

We are further told by Aetios that this goddess was called Ananke and the "Holder of Lots."<sup>59</sup> We know already that she "steers the course of all things," that is, that she regulates the motions of the celestial bands. Simplicius adds, unfortunately without quoting the actual words, that she sends souls at one time from the light to the unseen world, at another from the unseen world to the light.<sup>60</sup> It would be difficult to describe more exactly what the goddess does in the Myth of Er, and so here once more we seem to be on Pythagorean ground. It is to be noticed further that in fr. 10 we read how Ananke took the heavens and compelled [191] them to hold fast the fixed courses of the stars, and that in fr. 12 we are told that she is the beginner of all pairing and birth. Lastly, in fr. 13 we hear that she created Eros first of all the gods. So we shall find that in Empedokles it is an ancient oracle or decree of Ananke that causes the gods to fall and become incarnate in a cycle of births.<sup>61</sup>

We should be more certain of the place this goddess occupies in the universe if we could be sure where Ananke is in the Myth of Er. Without, however, raising that vexed question, we may lay down with some confidence that, according to Theophrastos, she occupied a position midway between the earth and the heavens. Whether we believe in the "mixed bands" or not makes no difference in this respect; for the statement of Aetios that she was in the middle of the mixed bands undoubtedly implies that she was between earth and heaven. Now she is identified with one of the bands in a somewhat confused passage of Cicero,<sup>62</sup> and the whole theory of wheels or bands was probably suggested by the Milky Way. It seems to me, therefore, that we must think of the Milky Way as a band intermediate between those of the Sun and the Moon, and this agrees very well with the prominent way in which it is

mentioned in fr. 11. It is better not to be too positive about the other details, though it is interesting to notice that according to some it was Pythagoras, and according to others Parmenides, who discovered the identity of the evening and morning star.<sup>63</sup>

Besides all this, it is certain that Parmenides went on to describe how the other gods were born and how they fell, an idea which we know to be Orphic, and which may well have been Pythagorean. We shall come to it again in Empedokles. In Plato's *Symposium*, Agathon couples Parmenides with Hesiod as a narrator of ancient deeds of violence committed by the gods.<sup>64</sup> If Parmenides was expounding the Pythagorean theology, this is just what we should expect; but it seems hopeless to explain it on any of the other theories which have been advanced on the purpose of the Way of Belief.<sup>65</sup> Such things belong to theological speculation, and not to the beliefs of "the many." Still less can we think it probable that Parmenides made up these stories himself to show what the popular view of the world really implied if properly formulated. We must ask, I think, that any theory shall account for what was evidently no inconsiderable portion of the poem.

#### 95. Physiology

In describing the views of his contemporaries, Parmenides was obliged, as we see from the fragments, to say a good deal about physiological matters. Like everything else, man was composed of the warm and the cold, and death was caused by the removal of the warm. Some curious views with regard to generation were also stated. In the first place, males came from the right side and females from the left. Women had more of the warm and men of the cold, a view we shall find Empedokles contradicting.<sup>66</sup> It is the proportion of the warm and cold in men that determines [193] the character of their thought, so that even corpses, from which the warm has been removed, retain a perception of what is cold and dark.<sup>67</sup> These fragments of information do not tell us much when taken by themselves; but they connect themselves in an interesting way with the history of medicine, and point to the fact that one of its leading schools stood in close relation with the Pythagorean Society. Even before the days of Pythagoras, we know that Kroton was famous for its doctors.<sup>68</sup> We also know the name of a very distinguished medical writer who lived at Kroton in the days between Pythagoras and Parmenides, and the few facts we are told about him enable us to regard the physiological views described by Parmenides not as isolated curiosities, but as landmarks by which we can trace the origin and growth of one of the most influential of medical theories, that which explains health as a balance of opposites.

#### 96. Alcmaeon of Croton

Aristotle tells us that Alkmaion of Kroton<sup>69</sup> was a young man in the old age of Pythagoras. He does not actually say, as later writers do, that he was a Pythagorean, though he points out that he seems

either to have derived his theory of opposites from the Pythagoreans or they theirs from him.<sup>70</sup> In any case, he was intimately connected with the society, as is proved by one of the scanty fragments of his book. It began as follows: "Alkmaion of Kroton, son of Peirithous, spoke these words to Brotinos and Leon and Bathyllos. As to things invisible and things mortal, the gods have certainty; but, so far as men may infer . . ." <sup>71</sup> The quotation unfortunately ends in this abrupt way, but we learn two things from it. In the first place, Alkmaion possessed that reserve which marks all the best Greek medical writers; and in the second place, he dedicated his work to the heads of the Pythagorean Society.<sup>72</sup>

Alkmaion's importance really lies in the fact that he is the founder of empirical psychology.<sup>73</sup> He regarded the brain as the common sensorium, a view which Hippokrates and Plato adopted from him, though Empedokles, Aristotle, and the Stoics reverted to the more primitive view that the heart is the central organ of sense. There is no reason to doubt that he made this discovery by anatomical means. We have authority for saying that he practised dissection, and, though the nerves were not yet recognised as such, it was known that there were certain "passages" (πόροι) which might be prevented from communicating sensations to the brain by lesions.<sup>74</sup> He also distinguished between sensation and understanding, though we have no means of knowing where he drew the line between them. His theories of the special senses are of great interest. We find in him already, what is characteristic of Greek theories of vision as a whole, the attempt to combine the view of vision as a radiation proceeding from the eye with that which attributes it to an image reflected in the eye. He knew the importance of air for the sense of hearing, though he called it the void, a thoroughly Pythagorean touch. With regard to the other senses, our information is more [195] scanty, but sufficient to show that he treated the subject systematically.<sup>75</sup>

His astronomy seems very crude for one who stood in close relations with the Pythagoreans. We are told that he adopted Anaximenes' theory of the sun and Herakleitos's explanation of eclipses.<sup>76</sup> If, however, we were right in holding that the Second Part of the poem of Parmenides represents the view of Pythagoras, we see that he had not gone very far beyond the Milesians in such matters. His theory of the heavenly bodies was still "meteorological." It is all the more remarkable that Alkmaion is credited with the view that the planets have an orbital motion in the opposite direction to the diurnal revolution of the heavens. This view, which he may have learnt from Pythagoras, would naturally be suggested by the difficulties we noted in the system of Anaximander.<sup>77</sup> It doubtless stood in close connexion with his saying that soul was immortal because it resembled immortal things, and was always in motion like the heavenly bodies.<sup>78</sup> He seems, in fact, to be the author of the curious view Plato put into the mouth of the Pythagorean Timaios, that the soul has circles in it revolving just as the heavens and the planets do. This too seems to be the explanation of his further statement that man dies because

he cannot join the beginning to the end.<sup>79</sup> The orbits of the heavenly bodies always come full circle, but the circles in the human head may fail to complete themselves.

Alkmaion's theory of health as "isonomy" is at once that which most clearly connects him with earlier inquirers like Anaximander, and also that which had the greatest influence on the subsequent development of philosophy. He observed, to begin with, that "most things human were two," and by this he meant that man was made up of the hot and the cold, the moist and the dry, and the rest of the opposites.<sup>80</sup> Disease was just the "monarchy" of any one of these—the same thing that Anaximander had called "injustice"—while health was the establishment in the body of a free government with equal laws.<sup>81</sup> This was the leading doctrine of the Sicilian school of medicine, and we shall have to consider in the sequel its influence on the development of Pythagoreanism. Taken along with the theory of "pores," it is of the greatest importance for later science.

1. Diog. ix. 21 (R. P. 111). For the foundation of Elea, see Herod. i. 165 *sqq.* It was on the coast of Lucania, south of Poseidonia (Paestum).

2. Diog. ix. 23 (R. P. 111). Cf. Diels, *Rhein. Mus.* xxxi. p. 34; and Jacoby, pp. 231 *sqq.*

3. Plato, *Parm.* 127 b (R. P. 111 d). Wilamowitz once said that there were no anachronisms in Plato, though he now (*Platon*, vol. i. p. 507) regards this statement as an "invention." I cannot agree. In the first place, we have exact figures as to the ages of Parmenides and Zeno, which imply that the latter was twenty-five years younger than the former, not forty as Apollodoros said. In the second place, Plato refers to this meeting in two other places (*Theaet.* 183 e7 and *Soph.* 217 c 5), which do not seem to be mere references to the dialogue entitled *Parmenides*.

4. Cf. p. 172, *n.* 1.

5. Plut. *Per.* 4, 3. See below, p. 311, *n.* 1.

6. See above, Chap. II. p. 127, *n.* 2.

7. Diog. ix. 21 (R. P. 111), reading Ἀμεινία Διοχαίτα with Diels (*Hermes*, xxxv. p. 197). Sotion, in his *Successions*, separated Parmenides from Xenophanes and associated him with the Pythagoreans (*Dox.* pp. 146, 148, 166). So Proclus in *Parm.* iv. 5 (Cousin), Ἐλεᾶται δ' ἄμφω (Parmenides and Zeno) καὶ οὐ τοῦτο μόνον, ἀλλὰ καὶ τοῦ Πυθαγορικοῦ διδασκαλείου μεταλαβόντε, καθάπερ πού καὶ Νικόμαχος ἰστόρησεν. Presumably this comes from Timaios.

8. Strabo, vi. 1, p. 252 (p. 171, *n.* 2); Ceb. *Tab.* 2 (R. P. 111 c). The statements of Strabo are of the greatest value; for they are based upon historians (especially Timaios) now lost.

9. We know too little of the apocalyptic poems of the sixth century B.C. to be sure of the details. All we can say is that Parmenides has taken the form of his poem from some such source. See Diels, "Über die poetischen Vorbilder des Parmenides" (*Berl. Sitzb.* 1896), and the Introduction to his *Parmenides Lehrgedicht*, pp. 9 *sqq.*

10. Diog. ix. 23 (R. P. 111). Plut. *Adv. Col.* 1226 a, Παρμενίδης δὲ τὴν ἑαυτοῦ πατρίδα διεκόσμησε νόμοις ἀρίστοις, ὥστε τὰς ἀρχὰς καθ' ἕκαστον ἐνιαυτὸν ἐξορκοῦν τοὺς πολίτας ἐμμενεῖν τοῖς Παρμενίδου νόμοις. Strabo, vi. 1, p. 252, (Ἐλέαν) ἐξ ἧς Παρμενίδης καὶ Ζήνων ἐγένοντο ἄνδρες Πυθαγόρειοι. δοκεῖ δὲ μοι καὶ δι' ἐκείνους καὶ ἔτι πρότερον εὐνομηθῆναι. We can hardly doubt that this too comes from Timaios.

11. Simpl. *Phys.* 144, 25 (R. P. 117). Simplicius, of course, had the library of the Academy at his command. Diels estimates that we have about nine-tenths of the Ἀλήθεια and about one-tenth of the Δόξα.

12. The best MS. of Sextus, who quotes this passage, reads κατὰ πάντ' ἄσθη Parmenides, then, was an itinerant philosopher, like the sophists of the next generation, and this makes his visit to the Athens of Perikles all the more natural.

13. For these see Hesiod, *Theog.* 748.

14. I read δοκιμῶσ' (*i.e.* δοκιμῶσαι) with Diels. I have left it ambiguous in my rendering whether εἶναι is to be taken with δοκιμῶσαι or δοκοῦντα.

15. This is the earliest instance of λόγος in the sense of (dialectical) argument which Sokrates made familiar. He got it, of course, from the Eleatics. The Herakleitean use is quite different. (See p. 133, *n. i.*)

16. I still believe that Zeller's is the only possible interpretation of τὸ γὰρ αὐτὸ νοεῖν ἔστιν τε καὶ εἶναι (*denn dasselbe kann gedacht werden und sein*, p. 558, *n. 1*; Eng. trans. p. 584, *n. 1*). It is impossible to separate νοεῖν ἔστιν here from fr. 4, εἰσὶ νοῆσαι, "can be thought." No rendering is admissible which makes νοεῖν the subject of the sentence; for a bare infinitive is never so used. (Some grammars make ποιεῖν the subject in a sentence like δίκαιόν ἐστι τοῦτο ποιεῖν, but this is shown to be wrong by δίκαιός εἰμι τοῦτο ποιεῖν.) The use of the infinitive as a subject only became possible when the articular infinitive was developed (cf. Monro, *H. Gr.* §§ 233, 234, 242). The original dative meaning of the infinitive at once explains the usage (νοεῖν ἔστιν, "is for thinking," "can be thought," ἔστιν εἶναι, "is for being," "can be").

17. The construction here is the same as that explained in the last note. The words τὸ λέγειν τε νοεῖν τ' ἐόν mean "that which it is possible to speak of and think," and are correctly paraphrased by Simplicius (*Phys.* p. 86, 29, Diels), εἰ οὖν ὅπερ ἄν τις ἢ εἴπη ἢ νοήσῃ τὸ ὄν ἔστι. Then ἔστι γὰρ εἶναι means "it can be," and the last phrase should be construed οὐκ ἔστι μηδὲν (εἶναι), "there is no room for nothing to be."

18. I construe οἷς νενόμισται τὸ πέλειν τε καὶ οὐκ εἶναι ταῦτόν καὶ οὐ ταυτόν. The subject of the infinitives πέλειν καὶ οὐκ εἶναι is the *it*, which has to be supplied also with ἔστιν and οὐκ ἔστιν. This way of taking the words makes it unnecessary to believe that Parmenides said instead of (τὸ) μὴ εἶναι for "not-being." There is no difference between πέλειν and εἶναι except in rhythmical value.

19. I take πάντων as neuter and understand παλίντροπος κέλευθος as equivalent to the ὁδὸς ἄνω κάτω of Herakleitos. I do not think it has anything to do with the παλίντροπος (or παλίντροπος) ἀρμονίη. See Chap. III. p. 136, *n. 4.*

20. I prefer to read ἔστι γὰρ οὐλομελές with Plutarch (*Adv. Col.* 1114 c). Proklos (*in Parm.* 1152, 24) also read οὐλομελές. Simplicius, who has μονογενές here, calls the One of Parmenides ὀλομελές elsewhere (*Phys.* p. 137, 15). The reading of [Plut.] *Strom.* 5, μῶνον μονογενές, helps to explain the confusion. We have only to suppose that the letters μ, ν, γ were written above the line in the Academy copy of Parmenides by some one who had *Tim.* 31 b 3 in mind. Parmenides could not call what *is* "only-begotten," though the Pythagoreans might call the world so.

21. For the difficulties which have been felt about μάλλον here, see Diels's note. If the word is to be pressed, his interpretation is admissible; but it seems to me that this is simply an instance of "polar expression." It is true that it is only the case of there being less of what is in one place than another that is important for the divisibility of the One; but if there is less in one place, there is more in another *than in that place*. In any case, the reference to the Pythagorean "air" or "void" which makes reality discontinuous is plain.

22. Simplicius certainly read μὴ ἐὸν δ' ἄν παντὸς ἐδεῖτο, which is metrically impossible. I have followed Bergk in deleting μή, and have interpreted with Zeller. So too Diels.

23. For the construction of ἔστι νοεῖν, see above, p. 173, *n. 2.*

24. As Diels rightly points out, the Ionic φατίζεῖν is equivalent to ὀνομάζειν. The meaning, I think, is this. We may name things as we choose, but there can be no thought corresponding to a name that is not the name of something real.

25. Note the curious echo of *II.* v. 214. Empedokles has it too (fr. 45). It appears to be a joke, made in the spirit of Xenophanes, when it was first discovered that the moon shone by reflected light. Anaxagoras may have introduced this view to the Athenians (§ 135), but these verses prove it was not originated by him.

26. This fragment of the theory of knowledge which was expounded in the second part of the poem of Parmenides must be taken in connexion with what we are told by Theophrastos in the "Fragment on Sensation" (*Dox.* p. 499; cf. p. 193). It appears from this that he said the character of men's thought depended upon the preponderance of the light or the dark element in their bodies. They are wise when the light element predominates, and foolish when the dark gets the upper hand.

27. This is a fragment of Parmenides's embryology. Diels's fr. 18 is a retranslation of the Latin hexameters of Caelius Aurelianus quoted R. P. 127 a.

28. Arist. *De caelo*, Γ, 1. 298 b 21, ἐκείνοι δὲ (οἱ περὶ Μέλισσόν τε καὶ Παρμενίδην) διὰ τὸ μὴθὲν μὲν ἄλλο παρὰ τὴν τῶν αἰσθητῶν οὐσίαν ὑπολαμβάνειν εἶναι κτλ. So too Eudemos, in the first book of his *Physics* (ap. *Simpl. Phys.* p. 133, 25), said of Parmenides: τὸ μὲν οὖν κοινὸν οὐκ ἂν λέγοι. οὔτε γὰρ ἐζητεῖτο πῶς τὰ τοιαῦτα, ἀλλ' ὕστερον ἐκ τῶν λόγων προήλθεν, οὔτε ἐπιδέχοιτο ἂν ἅ τῶ ὄντι ἐπιλέγει. πῶς γὰρ ἔσται τοῦτο "μέσσοθεν ἰσοπαλές" καὶ τὰ τοιαῦτα; τῶ δὲ οὐρανῶ (the world) σχεδὸν πάντες ἐφαρμόσουσιν οἱ τοιοῦτοι λόγοι. The Neoplatonists, of course, saw in the One the νοητὸς κόσμος, and Simplicius calls the sphere a "mythical figment." See especially Bäumker, "Die Einheit des Parmenideischen Seiendes" (*Jahrb. f. kl. Phil.*, 1886, pp. 541 sqq.), and *Das Problem der Materie*, pp. 50 sqq.
29. We must not render τὸ εἶναι by "Being," *das Sein* or *l'être*. It is "what is," *das Seiende*, *ce qui est*. As to (τὸ) εἶναι it does not occur, and hardly could occur at this date.
30. See above, fr. 6, n. 2.
31. From the point of view we are now taking, it is doubtful if even Atomism can rightly be called Monism, since it implies the real existence of space. The most modern forms of Monism are not corporealist, since they replace body by energy as the ultimate reality.
32. Plato, *Theaet.* 180 e 3, ὡς ἔν τε πάντα ἐστὶ καὶ ἔστηκεν αὐτὸ ἐν αὐτῷ οὐκ ἔχον χώραν ἐν ἣ κινεῖται. This is explicitly stated by Melissos (fr. 7, p. 323). but Plato clearly meant to ascribe it to Parmenides as well.
33. Arist. *De caelo*, Γ, 1. 298 b 21, quoted above, p. 178, n. 3, and the other passages there quoted.
34. *Greek Thinkers*, vol. i. pp. 180 sqq.
35. *Met.* A, 5. 986 b 31 (R. P. 121 a). Aristotle's way of putting the matter is due to his interpretation of fr. 8, 54, which he took to mean that one of the two "forms" was to be identified with τὸ ὄν and the other with τὸ μὴ ὄν. Cf. *De gen. corr.* A, 3. 318 b 6, ὡσπερ Παρμενίδης λέγει δύο, τὸ ὄν καὶ τὸ μὴ ὄν εἶναι φάσκων. This last sentence shows clearly that when Aristotle says Παρμενίδης, he sometimes means what we should call "Parmenides."
36. Theophr. *Phys. Op.* fr. 6 (*Dox.* p. 482 ; R. P. 121 a), κατὰ δόξαν δὲ τῶν πολλῶν εἰς τὸ γένεσιν ἀποδοῦναι τῶν φαινομένων δύο ποιῶν τὰς ἀρχάς. For Alexander, cf. *Simpl. Phys.* p. 38, 24, εἰ δὲ ψευδεῖς πάντη τοὺς λόγους οἶεται ἐκείνους (Ἀλέξανδρος) κτλ.
37. *Simpl. Phys.* p. 39, 10 (R. P. 121 b). Gomperz, *Greek Thinkers*, Vol. 1. P. 180.
38. Cf. frs. 4 and 6, especially the words αἴπερ ὁδοὶ μοῦναι διζήσιός εἰσι νοῆσαι. The third way, that of Herakleitos, is only added as an afterthought—αὐτὰρ ἐπειτ' ἀπὸ τῆς κτλ.
39. I read γρῆν δοκιμῶσ' εἶναι in fr. 1, 32 with Diels. The view that the opinions contained in the Second Part are those of others, and are not given as true in any sense whatsoever, is shared by Diels. The objections of Wilamowitz (*Hermes*, xxxiv. pp. 203 sqq.) do not appear to me cogent. If we interpret him rightly, Parmenides never says that "this hypothetical explanation is . . . better than that of any one else." What he does say is that it is untrue altogether.
40. *Met.* A, 5. 986 b 34, θερμὸν καὶ ψυχρόν; *Phys.* A, 5. 188 a 20; *De gen. corr.* A, 3. 318b6; B, 3. 330b 14.
41. *Phys.* A, 5. 188 a 21, ταῦτα δὲ (θερμὸν καὶ ψυχρόν) προσαγορεύει πῦρ καὶ γῆν; *Met.* A, 5. 986 b 34, οἶον πῦρ καὶ γῆν λέγων. Cf. Theophr. *Phys. Op.* fr. 6 (*Dox.* p. 482 ; R. P. 121 a).
42. *Phys.* p. 25, 15, ὡς Παρμενίδης ἐν τοῖς πρὸς δόξαν πῦρ καὶ γῆν (ἢ μᾶλλον φῶς καὶ σκότος). So already Plut. *Adv. Col.* 1114 b, τὸ λαμπρὸν καὶ σκοτεινόν.
43. *Met.* A, 5. 986 b 35, τούτων δὲ κατὰ μὲν τὸ ὄν τὸ θερμὸν τάττει, θάτερον δὲ κατὰ τὸ μὴ ὄν. See above, p. 182, n. 2.
44. See below, Chap. VII. § 147.
45. Theophr. *Phys. Op.* fr. 6 (*Dox.* p. 482 ; R. P. 121 a), followed by the doxographers.
46. Note the identification of the dense element with "air" in [Plut.] *Strom.* fr. 5 (*Dox.* p. 581), λέγει δὲ τὴν γῆν τοῦ πυκνοῦ καταρρυνέντος ἀέρος γεγονέναι. This is pure Anaximenes. For the identification of this "air" with "mist and darkness," cf. Chap. I. § 27, and Chap. V. § 107. It is to be observed further that Plato puts this last identification into the mouth of a Pythagorean (*Tim.* 52 d).
47. See above, p. 109.

48. It seems most likely that ἐπαλλήλους here means "crossing one another," as the Milky Way crosses the Zodiac. The term ἐπάλληλος is opposed to παράλληλος.

49. As Diels points out, στεφάνη in Homer is used of a golden band in the hair (Σ 597) or the brim of a helmet (H 12). It may be added that it was used technically of the figure contained between two concentric circles (Proclus, *in Eucl.* 1. p. 163, i2). It always means something annular.

50. It must be remembered that τείχος is a city-wall or fortification, and that Euripides uses στεφάνη for a city-wall (*Hec.* 910). Heath's remark (p. 69) that "certainly Parmenides' All was spherical" is irrelevant. We have nothing to do with his own views here.

51. *Rep.* x. 616 d 5, καθάπερ οἱ κάδοι οἱ εἰς ἀλλήλους ἀρμόττοντες; e 1, κύκλους ἄνωθεν τὰ χεῖλη φαίνοντας (σφρονδύλους)

52. *Tim.* 36 b 6, ταύτην οὖν τὴν σύστασιν πᾶσαν διπλῆν κατὰ μήκος σκίσας, μέσσην πρὸς μέσσην ἑκατέραν ἀλλήλαις οἶον χει (the letter X) προσβαλὼν κατέκαμπεν εἰς ἓν κύκλω

53. Hymn to Ares, 6:

πυραυγέα κύκλον ἐλίσσω

αἰθέρος ἑπταπόροις ἐνὶ τεύρεσιν, ἔνθα σε πῶλοι

ζαφλεγέες τριτάτης ὑπὲρ ἄντυγος αἰὲν ἔχουσι.

So, in allusion to an essentially Pythagorean view, Proclus says to the planet Venus (h. iv. 17):

εἶτε καὶ ἑπτὰ κύκλων ὑπὲρ ἄντυγας αἴθερα ναίεις.

54. On the concentric spheres of Eudoxos, see Heath, pp. 193 *sqq.*

55. Such a repetition (παλινδρομία) is characteristic of all Greek style, but the repetition at the end of the period generally adds a new touch to the statement at the opening. The new touch is here given in the word ἴεται. I do not press this interpretation, but it seems to me much simpler than that of Diels, who has to take "night" as equivalent to "earth," since he identifies it with the στερεόν.

56. *Simpl. Phys.* p. 34, 14 (R. P. 125 b).

57. *Diog.* ix. 21, πρῶτος δ' αὐτὸς τὴν γῆν ἀπέφηνε σφαιροειδῆ καὶ ἐν μέσῳ κείσθαι. Cf. viii, 48 (of Pythagoras), ἀλλὰ μὴν καὶ τὸν οὐρανὸν πρῶτον ὀνομάσαι κόσμον καὶ τὴν γῆν στρογγύλην. (cf. Plato, *Phaed.* 97 d), ὡς δὲ Θεόφραστος, Παρμενίδην. This appears to justify us in ascribing the doctrine of a spherical earth to Pythagoras (cf. p. 111).

58. I do not discuss the interpretation of περὶ ὃ πάλιν πυρώδης which Diels gave in *Parmenides Lehrgedicht*, p. 104, and which is adopted in R. P. 162 a, as it is now virtually retracted. In the later editions of his *Vorsokratiker* (18 A 37) he reads καὶ τὸ μεσαιτατον πασῶν (sc. τῶν στεφανῶν) στερεόν, <ὕφ' ᾧ> πάλιν πυρώδης (sc. στεφάνη). That is a flat contradiction.

59. R. P. 126, where Fülleborn's ingenious emendation κληδοῦχον for κληροῦχον is tacitly adopted. This is based upon the view that Aetios (or Theophrastos) was thinking of the goddess that keeps the keys in the Proem (fr. 1, 14). I now think that the κληροῖ of the Myth of Er give the true explanation.

60. *Simpl. Phys.* p. 39, 19, καὶ τὰς ψυχὰς πέμπειν ποτὲ μὲν ἐκ τοῦ ἐμφανοῦς εἰς τὸ αἰδέες (*i.e.* αἰδέες), ποτὲ δὲ ἀνάπαλιν φησιν. We should probably connect this with the statement of *Diog.* ix. 22 (R. P. 127) that men arose from the sun (reading ἡλίου with the MSS. for the conjecture ἰλύος).

61. Empedokles, fr. 115.

62. Cicero, *De nat. d.* i. II, 28: "Nam Parmenides quidem commenticium quiddam coronae simile efficit (στεφάνην appellat), continente ardore lucis orbem, qui cingat caelum, quem appellat deum." We may connect with this the statement of Aetios, ii. 20, 8, τὸν ἥλιον καὶ τὴν σελήνην ἐκ τοῦ γαλαξίου κύκλου ἀποκριθῆναι.

63. Diog. ix. 23, καὶ δοκεῖ Παρμενίδης πρῶτος πεφωρακέναι τὸν αὐτὸν εἶναι Ἐσπερον καὶ Φωσφόρον, ὡς φησι Φαβωρίνος ἐν πέμπτῳ Ἀπομνημονευμάτων· οἱ δὲ Πυθαγόραν. Cf. viii. 14 (of Pythagoras), πρῶτόν τε Ἐσπερον καὶ Φωσφόρον τὸν αὐτὸν εἰπεῖν, ὡς φησι Παρμενίδης. So Diels now reads with all the MSS. (the vulgate οἱ δὲ φησι Παρμενίδην is due to Casaubon). It is not necessary to suppose that Parmenides made this statement explicitly in his poem; there may have been an unmistakable allusion, as in Empedokles, fr. 129. In that case, we should have a remarkable confirmation of the view that the Δόξα of Parmenides was Pythagorean. If, as Achilles says, the poet Ibykos of Rhegion had anticipated Parmenides in announcing this discovery, that is to be explained by the fact that Rhegion became for a time, as we shall see, the chief seat of the Pythagorean school.
64. Plato, *Symp.* 195 c 1. It is implied that these παλαιὰ πράγματα were πολλὰ καὶ βίαια, including ἐκτομαί and δεσμοί. The Epicurean criticism of this is partially preserved in Philodemus, *De pietate*, p. 68, Gomperz; and Cicero, *De nat. d.* i. 28 (*Dox.* p. 534 ; R. P. 126 b).
65. For these theories, see § 90.
66. For all this, see R. P. 127 a, with Arist. *De part. an.* B, 2. 648 a 28; *De gen. an.* Δ, I. 765 b 19.
67. Theophr. *De sens.* 3, 4 (R. P. 129).
68. See p. 89, n. 2.
69. On Alkmaion, see especially Wachtler, *De Alcmaeone Crotoniata* (Leipzig, 1896).
70. Arist. *Met.* A, 5. 986 a 27 (R. P. 66). In a 30 Diels reads, with great probability, ἐγένετο τὴν ἡλικίαν <νέος> ἐπὶ γέροντι Πυθαγόρα. Cf. Iamb. *V. Pyth.* 104, where Alkmaion is mentioned among the συγχρονίσαντες καὶ μαθητεύσαντες τῷ Πυθαγόρα πρεσβύτη νέοι.
71. Ἀλκμαίων Κροτωνίτης τάδε ἔλεξε Πειρίθου υἱὸς Βροτίνῳ καὶ Λέοντι καὶ Βαθύλλῳ· περὶ τῶν ἀφανέων, περὶ τῶν θνητῶν, σαφήνεια μὲν θεοὶ ἔχοντι, ὡς δὲ ἀνθρώποις τεκμαίρεσθαι καὶ τὰ ἐξῆς (fr. 1, Diels, *Vors.* 14 b 1). The fact that this is not written in conventional Doric is a strong proof of its genuineness.
72. Brotinos (or Brontinos) is variously described as the son-in-law or father-in-law of Pythagoras. Leon is one of the Metapontines in the catalogue of Iamblichos (Diels, *Vors.* 45 A), and Bathyllos is presumably the Poseidoniata Bathylos also mentioned there.
73. Everything bearing on the early history of this subject is brought together and discussed in Prof. Beare's *Greek Theories of Elementary Cognition*, to which I must refer the reader for all details.
74. Theophr. *De sens.* 26 (Beare, p. 252, n. 1). Our authority for the dissections of Alkmaion is only Chalcidius, but he gets his information on such matters from far older sources. The πόροι and the inference from lesions are vouched for by Theophrastus.
75. The details will be found in Beare, pp. 11 *sqq.* (vision), pp. 93 *sqq.* (hearing), pp. 131 *sqq.* (smell), pp. 180 *sqq.* (touch), pp. 160 *sqq.* (taste).
76. Aet. ii. 22, 4, πλατὺν εἶναι τὸν ἥλιον; 29, 3, κατὰ τὴν τοῦ σκαφοειδοῦς στροφήν καὶ τὰς περικλίσεις (ἐκλείπειν τὴν σελήνην).
77. Aet. ii. 16, 2, (τῶν μαθηματικῶν τινες) τοὺς πλανήτας τοῖς ἀπλάνεσιν ἀπὸ δυσμῶν ἐπ' ἀνατολὰς ἀντιφέρεσθαι. τοῦτω δὲ συνομολογεῖ καὶ Ἀλκμαίων. For the difficulties in Anaximander's system see p. 69 *sq.*
78. Arist. *De an.* A, 2. 405 a 30 (R. P. 66 c).
79. Arist. *Probl.* 17, 3. 916 a 33, τοὺς ἀνθρώπους φησὶν Ἀλκμαίων διὰ τοῦτο ἀπόλλυσθαι, ὅτι οὐ δύνανται τὴν ἀρχὴν τῷ τέλει προσάψαι.
80. Arist. *Met.* A, 5. 986 a 27 (R. P. 66).
81. Aet. v. 30, I, Ἀλκμαίων τῆς μὲν ὑγείας εἶναι συνεκτικὴν τὴν ἰσονομίαν τῶν δυνάμεων, ὑγροῦ, ξηροῦ, ψυχροῦ, θερμοῦ, πικροῦ, γλυκέος, καὶ τῶν λοιπῶν, τὴν δ' ἐν αὐτοῖς μοναρχίαν νόσου ποιητικὴν· φθοροποιὸν γὰρ ἑκατέρου μοναρχίαν.