

## ESSAY 3

# HOW THE MOON MIGHT SHED SOME OF HER LIGHT UPON THE TWO WAYS OF PARMENIDES (I)

I first met Parmenides – together with Anaximander, Xenophanes, Heraclitus, and the other great Presocratics – in a German translation by Wilhelm Nestle, famous as the editor of the later editions of Zeller's *magnun opus*. I was 15 or 16 years old, and I was overwhelmed by the meeting. Here were the first of the steps that led to Newton. The verses that I liked best were Parmenides' story of Selene's love for radiant Helios (DK 28 B14–15). But I did not like it that the translation made the Moon male and the Sun female (according to the genders of their German names), and it occurred to me to give the couplet in German a title like 'Moongoddess and Sungod', or perhaps 'Selene and Helios', in order to rectify the genders. So I began fiddling about with the translations. The volume, which I still possess, shows many traces of this.

In those days I was an enthusiastic Newtonian (I still am) and, of course, aware of the theory of the Moon. But before reading Parmenides' story it had not occurred to me to watch how Selene always looks at Helios' rays.

νυκτιφαῆς περὶ γαῖαν ἀλώμενον ἀλλότριον φῶς,  
αἰεὶ παπταίνουσα πρὸς αὐγὰς ἡελίοιο.

Bright in the night with the gift of his light,  
Round the Earth she is erring,  
Evermore letting her gaze  
Turn towards Helios' rays.

Since the day when I first read these lines (in Nestle's translation<sup>1</sup>), 74 or 75 years ago, I have never looked at Selene without working out how her gaze does indeed turn towards Helios' rays (though he is often below the horizon). And I have always remembered Parmenides with gratitude.

*This essay is an improved and expanded version of a paper published in The Classical Quarterly, N.S. 42, 1992, pp. 12–19. All translations are the author's, except where otherwise attributed. [Sketches for a second paper, 'Parmenides II', are printed as Popper Fragments 0–5, below. Ed.]*

## 1 The structure of Parmenides' epos

Parmenides' epos consists of a proem, followed by two main parts: the Way of Truth and the Way of Human Conjectures (if I may give the second main part that name); or the Way of True Knowledge and the Way of Conjectural Knowledge.

In the proem, Parmenides describes his own journey to the goddess<sup>2</sup> – an experience of enrapture – and her kind welcome. It ends with a brief but invaluable abstract (in five lines) of her impending revelation. We possess the proem complete. Then comes the first part – Part 1 – of her revelation, the Way of Truth. This we possess almost complete, and its two main messages are perfectly clear, though very startling. They are a theory of knowledge and a theory of the real world, as known to the gods. Both are delivered by the goddess with divine authority, but not in the spirit of dogmatism. The listener, Parmenides, is treated as a critical thinker. The appeal is to his intellect, and perhaps to his intellectual pride.

Part 2, the Way of Human Conjectures, is a shambles. What remains are a dozen brief fragments, highly interesting and poetic. They belong to cosmogony, astronomy, and human biology. One of them (DK B10) is a programme of what the poem is to tell us, and this is supported by a very interesting report due to Plutarch.<sup>3</sup> These two passages allow us to estimate how much must be missing from this part. Incidentally, Plutarch makes it clear that he regards this part of Parmenides' work as extended, and as highly original.

## 2 The revelation of the goddess

But it is Part 1, the Way of Truth – of demonstrable Truth as revealed by the goddess – that created a sensation. Here the goddess reveals to Parmenides two things that are so monstrous that they cannot be accepted unless they are given a logical proof.

The first is that we must not trust our senses, but only reason and logical proof (or disproof).<sup>4</sup>

The second is that the real world is full: it is a spherical block of continuous matter. (Parmenides is a materialist who believes in the power of pure thought.) And this has the consequence that, in this world, there can be no movement. Nothing ever happens.

To any normal person this teaching must have appeared not merely false but outrageous. What is shocking in Parmenides' poem (and constitutes a complete break with the old tradition that distinguishes between divine knowledge and human fallible conjecture) is not that the goddess declares our human world of experience to be false and illusory, but that *she* reveals, and claims to be true – and even proves! – a theory of reality that must seem impossible and even insane to every sane person. (We get

an echo of this about a century later in Plato's *Parmenides* 128d, and in Aristotle, *De Gen. et Corr.* 325a13; and again in *Adv. Col.*, as reported by Plutarch, *Moralia* 1113f., almost 500 years later.)

### 3 The problem

And yet, Parmenides tries to describe a real revelation of the goddess, and what the goddess said to him, he believed to be true. There has been a real revelation – a great flash of light. This is what he wishes to tell us, especially in the proem. It must have come to him as a great enlightenment; it must have solved for him a great problem. What is this problem?

To discover Parmenides' problem and to understand his enraptured feeling of enlightenment: this is my problem here.

### 4 A proposed solution of my problem

Parmenides was a philosopher of nature (in the sense of Newton's *philosophia naturalis*). A whole series of highly important astronomical discoveries is credited to him: that the Morning Star and the Evening Star are one and the same; that the Earth has the shape of a sphere (rather than of a drum of a column, as Anaximander thought). About equally important is his discovery that the phases of the Moon are due to the changing way in which the illuminated half-sphere of the Moon is seen from the Earth.<sup>5</sup>

Before this, the most ingenious theory of the phases of the Moon was due to Heraclitus.<sup>6</sup> He explained the phases of the Moon and the eclipses of Moon and Sun by the assumption that these were fires held in (metal?) bowls which circled round the Earth: they could turn their black sides partly, or fully, towards us. According to this theory, the Moon was no longer waxing and waning, but its phases were still the result of a real movement in the Moon. But according to Parmenides' new discovery, the phases of the Moon were nothing of the kind. They involved no real change or movement in the Moon. They were, rather, an illusion – the deceptive result of a play of light and shadow.

So our senses are misleading us. We must not trust them. They deceive us: we believe that the Moon moves whilst, in truth, she does not; instead, light plays on her dark and unchanging body.

But what is light? No thing, no matter. Light does not resist – it has no body, just as heat and cold (though they can be sensed, say, by our face) have no body. It is mere appearance, only affecting our senses, our eyes. It has no reality, no real existence. We should never have given light a name: only real, existing things deserve names.

Our senses are to be rejected. They lead us to impossible conjectures. We see movement very clearly where there is none. And we can even prove

that there is none: we can disprove, refute, the movement which we once saw in the phases of the Moon (B7):

Never shall it prevail that things that are not are existing.  
Keep back your thought from this way of inquiry; don't let experience,  
Much-tried habit, constrain you. And do not let wander your blinded  
Eye, or your deafened ear, or even your tongue along this way!  
But by reason alone decide on the often-contested  
Argument that I have here expounded to you as disproof.

This is the intellectualism or rationalism of the goddess, and her disproof of empiricism and, especially, of the acceptability of the senses as sources of knowledge.

But a great discoverer is bound to try to generalize his discovery. Selene does not truly possess those movements that she exhibits to us. Perhaps we can generalize this?

And then came the great intellectual illumination, the revelation: in one flash Parmenides saw not only that reality was a dark sphere of dense matter (like the Moon), but that he could prove it! And that movement was, indeed, impossible.

The proof was (more or less simplified):

- (1) Only being is (only what is, is).
- (2) The nothing, the non-being, cannot be.
- (3) The non-being would be the absence of being: it would be the void.
- (4) There can be no void.
- (5) The world is full: a block.
- (6) Movement is impossible.

Or to quote Parmenides B2 for his basic rational assumptions (1) and (2), formulated together in the first four lines of his Way of Truth, which contain what he calls his *First Path*:

Listen! And carry away my message when you have grasped it!  
Note the only two ways of inquiry that can be thought of:  
One is the way that *it is*; and that *non-being* cannot be *being*.  
That is the path of Persuasion, Truth's handmaid; now to the other!  
This path is that *it is not*; and that *it may not* be *being*.  
That path – take it from me! – is a path that just cannot be thought of,  
For you can't know what is *not*: it can't be done; nor can you say it.

The rejection of the *Second Path*, on the grounds of both deduction and intuitive logical thought, destroys movement (except perhaps local rotation), and with it common sense.

It must be admitted that, in his first formulations of the Way of Truth, which I have here quoted, Parmenides omits the subject 'it'. But later he speaks more naturally. It seems that he was afraid that by naming his subject he would do something like begging the question: the question of existence, of being. But this omission is a question that does not in any way affect the main argument, with its astounding combination of offering an outrageous theory and a splendidly simple and intuitively convincing proof for it.

## 5 Traces? Or evidence?

My proposed solution makes use of the well-established fact that a great discovery has often blinded its author like a powerful flash of light, making him believe that it explains far more than it actually does – perhaps everything.<sup>8</sup>

Parmenides' crucial discovery of the true explanation of the phases of the Moon was a great one. It soon led to the explanation of the eclipses, and to Aristarchus' anticipation of Copernicus. But, of course, my proposed solution cannot be proved. It is a historical hypothesis about the thoughts of a person. The only thing one can do for it is to show that it has some explanatory power: there are certain traces in our fragments which otherwise are not explicable, but in the light of my theory they might be fairly well understood. These could serve as something like evidence in its favour, weak evidence, admittedly.

My theory explains the relation between Part 1 and Part 2 of the speech of the goddess. And it explains especially the fascinating story, told by the goddess, of the epistemological fall of man (*der Sündenfall der Erkenntnis*, as Karl Reinhardt calls it<sup>9</sup>) that links the two parts. According to Parmenides, as here interpreted, the fall consists in the giving of names to two things – light and night – instead of only one – night, the dark Moon, the dark heavy matter. The forbidden move was to name 'light' – a no-thing. This is where 'they' – the mortals, the intellectual sinners – 'went astray'. It led them to believe in no-things, in the void, in empty space, and so in (the possibility of) motion. My hypothesis, therefore, singles out 'light' as the forbidden name, whilst the name 'night' would be permitted: the thing in itself, with no light playing on it, is dark, as is the Moon in itself. In giving a name to a no-thing, to a non-being, we are deceiving ourselves, and upsetting our world-picture, our conjectures, our 'opinions'. So the goddess promises at the end of the poem (B1: 31–2), referring to the story of the fall (B8: 53–61):

But you also shall learn how it came that illusive conjecture,  
Bound to be taken for real, was forcing its way through all things.

When she then really comes to the end of the Way of Truth, and to the story of our intellectual fall, she says (B8: 50–2):

Here I am ending my discourse, so far as it can be relied on,  
And my clear thoughts about truth. Now learn of human conjectures,  
When you will listen to my so beguilingly ordered verses.

But before she begins with these beguiling verses that treat of human conjectures about our cosmos, she tells the story of our intellectual fall; and this story seems to me most important. It is certainly easier to understand in the light of my historical hypothesis than it was before (when the influence of Hesiod was often appealed to for an explanation).

I shall quote the story; remember that 'they' are the intellectual culprits, responsible for the fall (B8: 53–4):

Two forms they made up their minds that they would give names to;  
But of these two, one was not permitted to have a name given.  
This is where they have gone astray . . .

The two named 'forms' are, as mentioned, light and night. They provide me with something that may almost be claimed to be a test of my hypothesis.

For most scholars so far (all those whom I have checked) have assumed on intuitive grounds that it was *light* which could be 'named', because it was existing, being, and that *night* was unreal, and the one that should not have been named; whilst my hypothesis suggests the opposite. Who is right?

Only years after I had formulated my hypothesis (including the hypothesis that light should not have been named) did it occur to me to develop a method of solving this problem. The method is easy enough. Make a list of opposites! This leads, I think unambiguously, to the result that *light* is on the side of non-being, the void, unreality, change, movement, warmth, youth, love, illusion, desire (for example for Helios' rays, B15); whilst *night* is on the side of darkness, heaviness, body (B8: 59, *πυκινὸν δέμας* – the most crucial place), cold, old age, death, non-movement, matter; the one real being: the permanent, unchanging, timeless truth.

Everybody can check this.<sup>10</sup> It fuses the Way of Truth and the Way of Conjectures into one well-articulated – but pessimistic – whole work. Parmenides sees life in all its warmth and movement and beauty and poetry. But the icy truth is death.

## 6 A few scattered comments

I am at the end of my story. I only wish to add a few more comments on what I regard as shocking mistranslations. (I think the mistranslations have become worse since Diels' Parmenides book of 1897.)

The worst of these translations are those of B16. I have discussed some of its shockingly bad translations in my book *Conjectures and Refutations*

(5th edn, 1989, first published 1963, whose criticism is partly complementary to my present criticism), but my old criticism was ignored, it seems: I have seen new and very bad translations years later. Famous scholars have simply not understood the (admittedly difficult) text. The best translation was, I believe, that of Hermann Diels. A sample translation, unfortunately representative of the texts transmitted by Aristotle, *Metaphysics* 1009b22–5 – ‘Theophrastus’ text is better – was that of Sir David Ross (I am quoting from the 2nd edn, 1928, of his translation of the *Metaphysics*), which reads like this:

For as at each time the much-bent limbs are composed,  
 So is the mind of men; for in each and all men  
 'Tis one thing thinks – the substance of their limbs:  
 For that of which there is more is thought.

I find that this is not English. The words are all English, of course, but they are woven into an impenetrable fog – almost as if on purpose. The same holds for all the other translations known to me (except perhaps that by Diels; yet Diels–Kranz has one of the worst). But in the light of one of the two main truths revealed by the goddess – Parmenides’ aggressive anti-empiricism or anti-sensualism – B16 becomes perfectly clear and immensely interesting: when properly translated, it is a scathing and highly ironical attack on sensualistic empiricism – in fact, on the teaching that is best known in the famous (but somewhat weak) formulation *Nihil est in intellectu quod non antea fuerat in sensu*. (So far the earliest known doctrine of this kind was that of Protagoras; but it must have existed half a century earlier. Of course, it is mentioned and mildly criticized, but not dated, in Aristotle’s *Metaphysics* 1009b13; see below.)

We must start from the sources of B16, Aristotle’s *Metaphysics* 1009b21, and Theophrastus, *De Sensu* (DK A46). The context in which both Aristotle and Theophrastus report and discuss their versions of Parmenides DK B16 is sense perception.

Aristotle begins the paragraph in which the quotation occurs with an important reference to philosophers who ‘suppose that thought is sense perception and that sense perception is physical change’; a crisp formulation of precisely that sensualist (and mechanist) theory of thinking which, as we shall see, Parmenides attacks in B16 with scathing irony. Theophrastus, who transmits the better text, puts it into the middle of a passage that also discusses sense perception, yet mainly with a problem that has nothing to do with our B16, and that goes back to Empedocles (for example DK 31B90): whether or not we perceive cold with cold and sweet with sweet, or possibly with the opposite – cold with hot and sweet with bitter. (Theophrastus links this problem with still another one that also has nothing to do with our B16.)

At any rate, Aristotle and Theophrastus agree in reporting B16 in a context concerning sense perception. But nothing in the usual translations shows this. They translate μελέων (genitive plural of μέλος) by 'limbs'. But you can find the following in Aristotle's *De Partibus Animalium* 645b36–646a1: 'Examples of parts are Nose, Eye, Face; each of these is named μέλος.' This the Loeb edition translates 'a "limb" or "member"'. But this is not English! Who would call the nose or the eye or the face in English a 'limb' or a 'member'? We would, of course, call the nose or the eye a sense organ; and the face also, if we used it for perceiving, say, a cold wind. However, the dictionary says 'limb' or 'member', but not 'sense organ'; and that is it, even though it is not proper English (just as *Glied* is in this context simply not correct German; as Hermann Diels realized, in using the right term).

I now turn to translating the passage, remembering Aristotle's context (but *not* Theophrastus') and Parmenides' rationalism and his hatred and contempt of sensualism and, no doubt, of the doctrine he hates: that rational thought (intellect) is sense perception linked with physical change. And I assume that both Aristotle and Theophrastus knew well that μέλος meant: a nose for smelling or an eye for seeing, or an ear for hearing. As a result, the translation now looks like this:

What is, at any one time, in their much-erring sense organs' mixture,  
That's what men use as standby for thought. For they treat, as if equal,  
Reasoning powers of man, and his sense organs' nature or compound.  
What in this mixture prevails becomes thought, for each man and all.

This is obviously a violently sarcastic presentation of precisely the theory that Aristotle thought that Parmenides was defending. (Aristotle misremembered the crucial, and for Parmenides very characteristic, word 'much-erring', replacing it by 'much-humbled', so that he might have thought that Parmenides wanted to defend the senses against being undervalued.)

Karl Reinhardt was well aware of Parmenides' scorn and contempt, but he nevertheless believed that B16 was one of the false yet serious human conjectures to be found in Part 2 of the speech of the goddess.<sup>11</sup> I admit that this is possible: it could have been a serious conjecture of the working of the minds of blockheads (or doubleheads).<sup>12</sup> But I cannot quite imagine the context. To me it is easier to think that B16 was a straightforward ironical attack like B6, and probably belonging with it.<sup>13</sup>

My reason is that the goddess was, after all, making propaganda through Parmenides (B2: 1) for rational, logical thought and against sensualism. This could not be combined with propagating amongst the best conjectures the view that humans cannot, in general, think, but can only perceive, and can only mistake their sense impressions for thought.



However, I wish to stress that we just do not know in which context B16 occurred. But if forced, I should vote for a place in the Way of Truth, near to B6.

A sign, apart from B7, that Parmenides also analysed his own way of logical thinking is, I believe, B5:

. . . It's all the same to me where I begin:  
Just to that very place I shall come back again.

I think B5 shows that he saw that most of his intuitive logical steps were logical equivalences rather than one-sided entailments. (This does not hold, however, for the last step, (6).)

## 7 A brief assessment

I think that Parmenides was the first great theoretician, the first creator of a deductive theory: one of the very greatest thinkers ever. He built not only the first deductive system, but the most ambitious, the boldest and most staggering ever; and one whose logical validity was intuitively immaculate.<sup>14</sup>

It took far more than 2,000 years before logicians learnt that there was no natural or intuitively fully satisfactory way of avoiding logically catastrophic conclusions, and that up to a point we had to choose our own logical conventions for avoiding them: an almost Parmenidean lesson (and one never learnt by most of the philosophers who made 'ontology' their business and got nowhere).

The next step, made possible only by Parmenides, was the recognition by Leucippus and Democritus that a deductive theory of the world, a theory of such power as that created by Parmenides, could only be *hypothetico*-deductive. So they accepted the existence of motion as an empirical refutation of Parmenides' hypothetical system and concluded from it that both the full *and* the empty existed: atoms *and* the void.

In this way, the greatest physical theory ever was born from a critically inspired discussion of Parmenides' thought that led to the refutation of his theory.

But the war still continues, the war of observation and experiment against theory, of believers in sense perception against thinkers; both within science and within scholarship.

## Notes

<sup>1</sup> Wilhelm Nestle, *Die Vorsokratiker, in Auswahl übersetzt*, Jena, 1908. I have since translated B14–15 (*Mondgöttin und Sonnengott*): 'Leuchtend bei Nacht mit dem

Licht, das er schenkt, / so umirrt sie die Erde. // Immerzu blickt sie gebannt / hin auf den strahlenden Gott.'

- 2 I do not see why the goddess should be regarded as anonymous. It must be Dikē (Justice), although Parmenides could have made this clearer. But why should Dikē, if she is merely a turn-key for a higher goddess, have so much fuss made about her by the Heliads, and be described by a fear-inspiring epithet? I cannot believe that it was Parmenides' intention to inform us that he passed her without exchanging a word with her, the divine turn-key, in order to be taken by the hand at once in a friendly fashion by a higher goddess, and welcomed. Is it not more probable that he was not an experienced writer and did not anticipate that we might want an explicit identification (although there was not a syllable in his text to make us suspect that there could be more than one goddess on his stage)? I believe the idea that there may be a second goddess involved is the unconscious result of translating 'high road' instead of, say, 'wide road' (i.e. wide enough for a wagon). Incidentally, it seems to me highly appropriate that a youth, turned speechless by a goddess's kind reception, thinks of her now as the 'goddess', and so addresses her in his mind, rather than by her name Dikē, which (he must feel) would be an impermissible familiarity. So the change in the text from 'Dikē' to the 'goddess' is determined by the situation. And the choice of Dikē, the guardian of truth (in courts of law), as the speaker is of course also highly appropriate. (See DK, vol. I, pp. 32, lines 20f.; and especially Heraclitus B28.)
- 3 DK B10 contains an extract, perhaps too brief, from Plutarch's *Moralia* 1114b.
- 4 The old pre-Aristotelian formal proof was, it seems, mainly the indirect proof, the *ἐλεγχος*, *elenchos* (*reductio ad absurdum*). Parmenides mentions it by name in B7: 5. It is good that there can be no doubt about its meaning, as it derives from ἐλέγχω ('to disgrace', 'scorn', 'dishonour'; in this case, to dishonour an assertion).
- 5 Parmenides speaks therefore of the round-eyed (κύκλωπος) Selene, B10: 4. He clearly knew that she was always half lit up.
- 6 See DK 22A1, p. 142, 2–6. Diogenes Laertius 9.10: eclipses of the Sun and of the Moon occur when the bowls (that contain the burning fuel) are turned upwards; the phases of the Moon occur when the bowl rotates, little by little, in its place.
- 7 I have tried in my translation to be as close to the text as is compatible with the use of clear English. The deviations of Parmenides from ordinary Greek have been sufficiently discussed elsewhere, by many scholars, and I do not believe that his meaning is in any doubt. Concerning the proof in six steps (preceding the quotation which refers to only the initial statements of the premise(s)), these steps extend, very repetitively, over the whole Way of Truth – apart from the fact that Parmenides does not consider the possibility that his total cosmic sphere might rotate (a possibility which would not have impressed him since his sphere was 'immovable and unchangeable in the bounds of mighty chains': B8: 26–7). At any rate, his intuitive proof seems to me (not valid but) intuitively in order: within his logic, which seems intuitively to work, there is no obviously invalid step; and the premise 'what exists, exists', or 'what is, is', seems to be a tautology; which would turn the valid derivation into a valid proof.
- 8 One of the rare exceptions is Xenophanes; cp. his modest comment (B34) on his revolutionary theology.
- 9 Karl Reinhardt, *Parmenides und die Geschichte der griechischen Philosophie*, Frankfurt-am-Main, 1st edn 1916; 2nd edn, 1959, p. 26; see Essay 9, Section 4, below.