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Pleasure, Knowledge and Sensation in Democritus

C. C. W. TAYLOR

While historians of philosophy, ancient and modern, have generally and rightly considered the main interest of Democritus to lie in his metaphysics and epistemology, the bulk of the fragments of his writings deal not with these but with ethical topics. It is, therefore, of obvious interest to enquire what connexion, if any, may be discerned between the ethical writings and the main body of the atomistic system. Further, this enquiry, as undertaken by modern critics, has produced considerable divergence in its results. Thus on the one hand Dyroff¹ was unable to see any connexion at all, while Bailey² is content with the conclusion that the ethical doctrine, which was in itself in no sense a coherent system, had only a loose connexion with the main atomistic theory. In contrast, Natorp³ held that the ethical theory is closely integrated with the cosmological, a view which has been developed with impressive erudition by Vlastos.⁴ In this paper I attempt to show that while there certainly exists a close connexion between the two main strands in Democritus' philosophy, the exact nature of that connexion has not been adequately outlined by either Natorp or Vlastos. To be more precise, their mistake seems to me to lie in looking for the connexion in some description of the ultimate end of human action as conceived by Democritus, rather than in the relation of his accounts of moral and of theoretical knowledge.

Natorp's account presents an extremely Platonic picture of Democritus. He calls attention to those fragments, e.g. 37⁵ – 'He who chooses the goods of the soul chooses the more divine; he who chooses those of its dwelling-place chooses human things' – and 187, where the soul is ranked above the body, and also to those, e.g. 189, 233-5, where the characteristically bodily pleasures, particularly eating, drinking and sex, are denigrated on the grounds that a life given over to them

¹ *Demokritstudien*, pp. 41 ff.

² *The Greek Atomists and Epicurus*, I, iii, 9-10.

³ *Ethica des Demokritos*, II,3.

⁴ *P.R.* 1945 pp. 578 ff. & 1946 pp. 53 ff.

⁵ The numbering of fr. is that of *D.-K.*

ends by bringing more pain than pleasure, and that in any case these pleasures are inherently unsatisfactory, in that the satisfaction they give is only temporary, while the distress of e.g. hunger constantly recurs. His conclusion from this is that by his advice to seek happiness by cultivating the pleasures of the soul rather than those of the body Democritus is recommending that one should devote oneself to the highest activity of the soul, the study of the nature of things. And since the nature of things is revealed in the cosmological theory of Leucippus and Democritus, the link between atomic physics and ethics is simply that it is in the study of the former that man achieves his highest good. In drawing this conclusion Natorp puts considerable emphasis on a passage of Cicero (*de fin.* v,8,23; *D.-K.* 68A169), where Democritus is described as having altogether withdrawn from worldly concerns ‘quid quarens aliud nisi vitam beatam? quam si etiam in rerum cognitione ponebat, tamen ex illa investigatione naturae consequi volebat, bono ut esset animo. ideo enim ille summum bonum εὐθυμίαν et saepe ἀθαμβίαν appellat, id est animum terrore liberum.’ Now this passage seems to me to say no more than that Democritus himself studied the nature of things with a view to achieving that freedom from anxiety which, according to Cicero, he identified with man’s highest good; there is no suggestion here that he thought that that was the only way of achieving it. Natorp’s reliance on this passage seems misconceived for a further reason; he maintains, rightly, as I hope to show later, that for Democritus εὐθυμία consisted not simply in freedom from disturbance but in pleasure unalloyed by any pain or unease, and that the study of the universe was the best sort of activity because the pleasure which one derives from that study is the best sort of pleasure. Yet this passage says explicitly that for Democritus the ultimate end was just to have one’s mind free from fear, and that the point of investigating the universe was not that it is pleasant, but simply that it gets rid of anxiety. If he is to retain his general conception of εὐθυμία, Natorp must hold that here Cicero misrepresents Democritus in an important particular. But it then seems that he is hardly justified in using this passage as the sole evidence for a conclusion about the nature of εὐθυμία. Natorp’s conclusion does not seem to me to be supported by any of the fragments; one might indeed claim that by ‘the goods of the soul’ in fr. 37 Democritus means cosmological speculation, but there seems no reason to suppose that the phrase must refer to that rather than to a quiet conscience (fr. 174) or to the joys of friendship (frr. 98-9). The two

passages which Natorp himself cites both seem to give very doubtful support. The first is fr. 194,

αἱ μεγάλοι τέρψεις ἀπὸ τοῦ θεᾶσθαι τὰ καλὰ τῶν ἔργων γίνονται,

which he takes in the sense 'Great joys come from contemplating the wonderful works of nature', i.e. from looking at the constitution of the universe as revealed by the atomic theory. But this is surely an extremely far-fetched sense for the phrase τὰ καλὰ τῶν ἔργων. It seems more plausible to translate the whole 'Great joys come from contemplating fine deeds', perhaps in the sense that one source of pleasure is the knowledge that one has acted well (cf. fr. 174). Alternatively, the passage might be taken to refer to the pleasure of looking at works of art. The second passage is fr. 112,

θείου νοῦ τὸ ἀεὶ τι διαλογίζεσθαι καλόν,

which Natorp takes to mean that it is the mark of the splendid or 'god-like' intellect always to be thinking out scientific problems. This looks like a simple case of over-translation; the verb seems to have the quite unspecific sense of 'consider' or 'think about', which gives a sense which is both perfectly satisfactory and more in line with the general run of the fragments, viz. that it is a mark of the fine mind always to be thinking about something fine, as opposed, presumably, to mulling over such squalid topics as wine or chorus-girls. These fragments, then, do not support Natorp, nor, as far as I can see, do any others. Further, one fragment at least might reasonably be taken to contradict his theory, fr. 65,

πολυσοτήν, οὐ πολυμαθίην ἀσκέειν χρή,

which might be taken to say that for the good life one does not need formal learning, as one presumably would in order to master the atomic theory, but practical intelligence.⁶ Yet it would clearly be wrong to put too much weight on a single isolated sentence; it is sufficient to say that not only does Natorp's view have no support in the fragments, but that from them there may just as plausibly be derived support for a directly contradictory theory.

Vlastos' theory has the advantage over Natorp's of a much more intimate dependence on the texts, both of the fragments and of the secondary authorities. He begins by citing texts from the Hippocratic corpus to show that some medical theorists regarded psychological states,

⁶ On the distinction between νοῦς and πολυμαθίη, (the latter covering cosmological speculation as well as historical and mythological learning) v. Heraclitus fr. 40.

both normal and abnormal, as causally dependent on bodily states, and in particular on the dispositions of the elements composing the body. Then, drawing attention to the atomistic view of the soul as a physical structure which moves the body by virtue of the particularly dynamic character of the fiery, spherical soul-atoms,⁷ he suggests that in Democritus' theory the causal dependence is reversed, states of the whole organism being dependent on the *physical* constitution of the soul. In particular, the ultimate end of human conduct, which as well as εὐθυμία Democritus is said to have called εὖεστώ, ἀταραξία and ἀθαμβία, was a particular physical state of the soul, in which the atoms were in the proper arrangement, not subject to any of the violent physical disturbances consequent upon the intense stimulation afforded by sensual pleasures. Many of the terms in which the ethical theory is expounded or described refer directly, according to Vlastos, to the physical theory. Thus εὖεστώ, literally 'well-being', means 'having one's essential nature (ἐστώ) in a good state,' that nature being one's soul-atoms in the surrounding void. Then Diogenes Laertius' description of εὐθυμία as the state καθ' ἣν γαληνῶς καὶ εὐσταθῶς ἡ ψυχὴ διάγει,⁸ means the state in which the soul remains physically undisturbed like a calm sea. Again, fr. 191, which says that εὐθυμία comes from moderation in pleasure and balance (συμμετρίῃ) in one's life, is taken in a physical sense. This fragment goes on, 'Excess and deficiency tend to change and cause considerable movement in the soul, and souls which are subject to movement over a large interval are neither stable nor happy'; according to Vlastos the description is a literal account of physical motion. The striking fr. 33,

ἡ διδασχὴ μεταρυσμοῦ τὸν ἄνθρωπον, μετερυσμοῦσα δὲ φυσιοποιεῖ,
 also fits Vlastos' theory neatly; in imparting new thoughts to the mind teaching actually alters the physical pattern of the soul-atoms by providing new physical stimulation (for this account of thought v. Ar. *Met.* Γ 5, 1009b7ff.; *D.-K.* 68A112), and thus literally fashions a new φύσις for the individual. For Vlastos, as for Natorp, fr. 187,

ἄνθρωποις ἀρμόδιον ψυχῆς μᾶλλον ἢ σώματος λόγον ποιεῖσθαι,
 is a key slogan of Democritus' ethical programme, but the slogan is understood in a quite different sense. According to Vlastos, the λόγος here referred to is a theory about the nature of the soul, of which his own atomic theory is of course the best example. Vlastos' account

⁷ Ar. *de an.* A 2, 404a 5 ff.; *D.-K.* 68 A 101.

⁸ IX, 45; *D.-K.* 68A1.

also dovetails Democritus' theory of knowledge neatly with the physical and ethical theories. Fr. 69 says that for all men the same thing is good and true, while what is pleasant is different for different men. This gives an obvious parallel with the famous fr. 125,

νόμῳ χροίῃ, νόμῳ γλυκύ, νόμῳ πικρόν, ἕτεῃ δ' ἄτομα καὶ κενόν.

What truly exists is atoms and void, while such qualities as colour, sweetness and in general secondary qualities are mere shifting appearances. Pleasantness is ranked with the latter, as it obviously varies from person to person, while the good is independent of all changes in the perceiver or the environment. But we do not have a mere parallelism, for the good is *identical* with the real;

ἄνθρωποις πᾶσι τούτων ἄγαθον καὶ ἀληθές.

The good is εὖεστώ, the real stuff of the soul, viz. atoms and void, in the proper arrangement. The process of discovering the real nature of the world and that of discovering the ultimate end of human conduct is one and the same, that of penetrating the shifting screen of phenomena to the underlying reality.

Vlastos' account has very considerable attractions. Not only does it tie together a number of apparently disparate elements in the tradition, but it systematically applies to the ethics conclusions which follow from or are at least consistent with the materialistic premisses of Democritus' cosmology. If he was a consistent materialist he must have held that all introspectively observable psychical states are at least causally dependent on physical states of the organism conceived as an aggregate of atoms in the void. Further, though not required by the theory, the suggestion that mental disturbance is produced by violent physical motion of atoms in the soul and happiness by a calm and settled state of the atoms would be a plausible hypothesis for an atomist. Again, Aristotle's statement in *Met.* Γ 5 (v. supra) that for Democritus thought was identical with sensation and sensation with qualitative change suggests that Vlastos is right in his claim that according to the theory teaching operates by changing the disposition of the atoms in the soul. So if Vlastos had been content to advance his thesis as a conjectural account of what Democritus may have held, if he applied his principles without inconsistency, it could have been accepted as providing a useful insight into the possibilities of the atomic theory. Unhappily, however, he went further, claiming to find in the texts explicit support for the contention that Democritus in fact made the link between ethics and physics which his investigations had

shown to be possible. Here his contention becomes unacceptable, for his interpretations of the crucial texts are in almost every case highly dubious and in some cases clearly impossible.

The corner-stone of Vlastos' account is his analysis of the meaning of the word εὔεστώ, which is given by Diogenes Laertius,⁹ Stobaeus¹⁰ and Clement of Alexandria¹¹ as Democritus' synonym for εὐθυμία, was reputed to be the title of one of the ethical works,¹² and also occurs in a single fragment, no. 257. Starting from the etymology of the word as εὖ + ἔστω, literally 'well-being', Vlastos draws attention to the use of the simple ἔστώ by Philolaos¹³ and the compound ἀειεστώ by Antiphon,¹⁴ where ἔστώ has the sense of 'being' or 'substance', and concludes that "To an atomist ἔστώ can mean only one thing; atoms and the void". Hence for Democritus εὔεστώ means having the atoms and void of one's soul in the proper arrangement. Besides the passage of Philolaos quoted by Vlastos, and its citation by Photius as a Pythagorean name for the dyad,¹⁵ ἔστώ occurs uncompounded only once, in a passage of Archytas preserved by Stobaeus.¹⁶ In Philolaos it has the sense of φύσις or οὐσία, while in Archytas it has the sense of the Aristotelian ὕλη, being contrasted with μορφή and with the efficient cause of change. Vlastos' interpretation requires that the element ἔστώ should be used by Democritus in the compound εὔεστώ in one or other of these senses; to this suggestion there are serious objections. Firstly, the uncompounded word is not attested for a writer in any dialect other than Doric. To this Vlastos might reply that he does not have to claim that Democritus, writing in Ionic, used the Doric ἔστώ as a technical term, but merely that he took over the sense of the word as used in Doric philosophical writing to give a special sense to the standard Ionic εὔεστώ; the tradition¹⁷ of his association with Pythagoreans and with Philolaos in particular might be held to support this. Yet if this is to be more than an interesting, but unverifiable, hypothesis it must

⁹ IX, 45; *D.-K.* 68 A1.

¹⁰ *ib.* A 167.

¹¹ *ib.* B 4; c. 76, 2.

¹² *D.L.* IX, 46; *D.-K.* 68 A33. Acc. Diogenes the title Εὔεστώ did not appear in Thrasyllus' catalogue.

¹³ *D.-K.* 44 B6.

¹⁴ *ib.* 87 B22.

¹⁵ *LSJ* s.v. ii.

¹⁶ I, 41, 2.

¹⁷ *D.L.* IX, 38.

have some independent support; Vlastos' attempt to provide this by his citation of Antiphon clearly fails, for his use (presumably a coinage) of ἀειεστῶ confirms what is apparent from the standard uses of εὖεστῶ, that when compounded in Attic and Ionic ἐστῶ has the sense not of φύσις or ὕλη but of εἶναι. 'Αειεστῶ is being for ever, just as εὖεστῶ is being in a good state. So far, then, from its being the case that "to an atomist ἐστῶ can mean only one thing; atoms and the void," it appears that to Democritus, as much as to anyone else writing in Ionic, ἐστῶ as an element in compounds would most naturally have the sense of the verbal substantive 'being', which is no more to be taken to refer to atoms and void than, say, the noun 'running', even though everything which is and everything which runs are alike composed of atoms and void. Further, εὖεστῶ is a perfectly standard fifth-century word for well-being or prosperity¹⁸; its use by Democritus as a synonym for εὐθυμία would not seem to call for the slightest special explanation. Vlastos' account of the meaning of εὖεστῶ must, then, be regarded as an unsupported conjecture which on ordinary scientific principles of simplicity it is safest to reject. It would be justifiable to reverse this verdict only if the other passages cited by Vlastos, or any other evidence, provided positive grounds for doing so.

In fact most of the passages quoted by Vlastos give no independent support to his conjecture; since they may be understood without reference to that conjecture they support it only if one has already decided on other grounds to adopt it. Thus there is little independent probability in Vlastos' analysis of Diogenes' description of εὐθυμία as a state in which γαληνῶς καὶ εὐσταθῶς ἡ ψυχὴ διάγει. From its original Homeric sense of 'well-built, firmly-based', describing the sort of building not liable to be shaken by e.g. earthquake, εὐσταθής comes to have the regular sense of 'tranquil' or 'settled', in application to the weather, constitutions of states, bodily conditions or states of mind; similarly, γαληνής has regularly the metaphorical sense of 'gentle' or 'calm' in application to mental states.¹⁹ Admittedly, in fr. 191 Democritus says that excess and deficiency of pleasure impart large movements to the soul, which prevent it from being εὐθυμος. Prima facie this seems to support Vlastos, and to suggest that the passage of Diogenes should be taken in a corresponding sense, but closer attention to the

¹⁸ LSJ.

¹⁹ LSJ s.vv.

wording of the fragment indicates a different conclusion. 'Excess and deficiency' says Democritus, 'tend to be variable and to impart large movements to the soul; and souls which are moved over large intervals are neither stable nor happy.' Vlastos interprets this as saying that souls whose atoms are in violent motion are not stable, but surely 'souls which are moved over large intervals' is a very odd way of describing souls in that state. A soul in such a state is not itself moved over a large interval any more than a city is when all its citizens run about the streets. One might regard this simply as a pettifogging objection, on the ground that Democritus clearly means 'souls whose atoms are moved over large intervals', but that notion too seems to fit very oddly into the general context of the atomistic account of the soul. On this account, the unhappy soul is distinguished from the happy one by the fact that its atoms move over greater intervals. But since according to atomic theory all atoms are in perpetual motion²⁰ and soul-atoms are the most mobile of all,²¹ it is hard to see why in terms of the theory the fact that in some mental states the soul-atoms move further than in others should be supposed to make the crucial difference between well-being and misery. Again, since all atoms are in constant motion, one atom could be said to move further than another only in the sense that it moved further in one direction before colliding with another atom. So excess and defect of pleasure must be supposed to space the atoms out more widely, so that each atom can travel further without hitting another. There seems to be neither any independent ground for the suggestion that anything like that was supposed to happen, nor any obvious reason why an atomist should assume that it must. Of course, none of these considerations show that it is *impossible* for Democritus to have believed something like that, but they show that what purported to be an obvious and illuminating interpretation of fr. 191 involves a good deal of unsupported and somewhat implausible reconstruction of the Democritean view of the soul. It would be simpler to treat the spatial terms in the fragment as metaphorical, taking *μεγάλας κινήσεις* as meaning 'movements from one extreme to the other', and interpreting the passage as a whole as follows, that a soul which oscillates from one extreme of the pleasure-distress scale to the other cannot be stable, just as a pillar which shakes about, or weather which changes very rapidly, are not stable.

²⁰ Ar. *de caelo* Γ 2, 300b 8-10; D.-K. 67 A 16.

²¹ Ar. *de an.* A 2, 405a 11-13; D.-K. 68 A 101.

Other passages cited by Vlastos are equally problematical. Unless one is already convinced of the truth of his theory, there is small temptation to understand fr. 187,

ἀνθρώποις ἀρμόδιον ψυχῆς μᾶλλον ἢ σώματος λόγον ποιεῖσθαι,
in the required sense, viz. 'It is fitting for men to devise a theory of the soul rather than of the body'. It seems much better to translate 'It is fitting for men to pay more attention to the soul than to the body', a rendering which not only gives a standard sense to λόγον ποιεῖσθαι + gen., while Vlastos' suggestion would seem to require λόγον περὶ τῆς ψυχῆς ποιεῖσθαι, but also fits more naturally the rest of the passage, 'For perfection of soul remedies bodily defects, but strength of body without intelligence does not make the soul any better'. Nor does Vlastos' interpretation of fr. 69,

ἀνθρωποῖς πᾶσι τὸν ἀγαθὸν καὶ ἀληθές· ἡδὺ δὲ ἄλλω ἄλλο,
fare much better. His suggestion is that since what is real is atoms and void (fr. 125), and what is good for man is obviously εὖεστώ, we are here told that εὖεστώ is identical with some state of atoms and void. But *every* state of atoms and void that obtains is true for all men, while on Vlastos' theory not every state is good. Thus there is no simple identity between what is real and what is good. But in any case the sense of the passage requires that the good and the true should be, not the same *as one another* but the same *for everyone*, as opposed to the pleasant, which varies from one individual to another. As far as the logic of the passage goes, this would leave it quite open for the good and the true to be two distinct entities, which both have the property of being the same for everyone, as e.g. red and green are the same for everyone while undeniably different from one another. This passage seems, then, as barren as the others of support for Vlastos' theory.

This leaves us, finally, with fr. 33,

ἡ διδασχὴ μεταρυσμοῖ τὸν ἄνθρωπον, μεταρυσμοῦσα δὲ φυσιοποιεῖ,
interpreted by Vlastos as saying that teaching alters the physical configuration of the soul-atoms and thus creates a new φύσις, 'configuration' being equivalent to 'pattern' or 'arrangement'. The difficulty here is that ῥυθμός appears rarely if ever to have the sense of 'spatial pattern'; apart from its central senses of 'rhythm' and 'time', its most common uses are equivalent to 'condition' and to 'shape'.²² More importantly, it was in the latter sense that it was used as an

²² LSJ.

atomistic technical term, meaning the shape of the individual atoms, while the word for their arrangement was διαθιγή.²³ It would, then, be highly inconsistent for Democritus to use the verb μεταρυσμόω with the sense of change in the spatial ordering of atoms. Furthermore, consistently with the technical atomistic usage, the ordinary, literal meaning of the verb is either generally 'to change' or particularly 'to change shape', not 'to rearrange'. Moreover, like the English 're-form', the verb has a common use in the sense of 'amend', with particular reference to conduct, which is exactly what is required in this context. If Vlastos is unwilling to accept that, he must hold that Democritus is here using the verb in a technical sense inconsistent with his own standard terminology, or that the verb does have the sense of physical re-shaping. The former alternative is clearly undesirable, as the interpretation was originally held to be necessary to account for traces of the terminology of the physical theory in the ethical fragments. But if the latter alternative is accepted, the fragment must be taken to say that teaching changes the physical shape of the person taught. Clearly on the normal sense of 'shape', viz. the visible outline of a body, that doctrine is very implausible; while that is of course not to say that Democritus cannot therefore have held it, it seems perverse to attribute it to him on the strength of a fragment for which a common-sense interpretation is available. But to try to evade this conclusion by positing some special sense of 'shape', something like 'structure', is in effect to revert to the first alternative. Instead of being forced to an interpretation of the fragment by the sense of the words, one is positing unattested senses for the words in order to fit an already accepted interpretation. It is much simpler to take the fragment as enunciating the truism that nature and teaching are not altogether different, since teaching changes a man's character etc., and in so doing makes his nature anew. The sense is thus akin to that of the traditional saying²⁴ 'Habit is a second nature', which no-one has been inclined to take in the sense that habit re-arranges the physical elements of the human organism.

To sum up, Vlastos' detailed investigations do not provide any significant degree of confirmation for what may reasonably be conjectured about Democritus' view of the connexion between his ethics

²³ Ar. *Met.* A 4, 985 b 4 ff.; *D.-K.* 67 A6.

²⁴ LSJ s.v. ἔθος.

and his cosmology as a whole. In particular, he does not add anything to the probability, which is on general grounds of consistency very considerable, that in atomistic theory all mental states, including εὐθυμία, are causally dependent on the shape and disposition of the atoms and void which are the ultimate physical constituents of the human person, a complex of body and soul. His claim to produce evidence of the sort of physical state on which εὐθυμία was held to depend is clearly unfounded.

Other suggestions, of a like degree of plausibility, may readily be made, e.g. that εὐθυμία depends on a physical state in which the soul-atoms move in regular motion at moderate speed, in contrast with a state of violent sensory or other stimulation, in which they are subject to fast and irregular motion, confirmation for this being sought in the steadiness and placidity which characterises the εὖθυμος,²⁵ and which is appropriate to one whose soul is in the former state. But all such speculation is clearly without foundation; we just do not know what, if anything, Democritus said about the physical state of the soul of the εὖθυμος, nor how such a view, supposing him to have had one, related to his teaching as to how εὐθυμία ought to be attained. It would seem that we must accept this agnostic conclusion as the last word on the subject, were it not that some features of Democritus' ethical writings show an interesting parallelism with his epistemology. Some of these features are indeed noticed by both Natorp and Vlastos, but tend to become obscured in the hunt for the nature of εὐθυμία. It seems useful, then, to attempt to isolate this parallelism from the rest of their theories, with a view to delineating it as precisely as possible.

This parallelism is best illuminated via consideration of the fact that both the ethical and the epistemological theories contain prima facie contradictions. The contradiction in the ethical theory is put into the sharpest focus by the juxtaposition of fr. 74,

ἡδὺ μὴδὲν ἀποδέχεσθαι, ἦν μὴ συμφέρη,

with fr. 188,

ὄρος συμφόρων καὶ ἀσυμφόρων τέρψις καὶ ἀτερπία.

The latter tells us that the criterion of whether or not something is useful is that it is pleasant, i.e. presumably that something is useful if and only if it is pleasant. The former, however, says that some things may be pleasant but not useful, which is a direct contradiction of our

²⁵ e.g. fr. 3, 191.

interpretation of fr. 188. This contradiction is to be resolved by regarding each of these fragments as dealing with a different aspect of pleasure; 74 is about the particular action or experience, whose pleasantness or unpleasantness may be considered without any consideration of its place in the broader context of the life of the individual, including its effect on the pleasantness and unpleasantness of other things. 188, on the other hand, is concerned with the pleasantness or unpleasantness, not of the single action or experience, but of one's life considered as a whole; the criterion of whether something is useful or harmful is whether it is likely to make one's life as a whole more or less pleasant, which now allows to see fr. 74 as consistent with 188, in that something may obviously be pleasant in itself and yet tend to make one's life as a whole unpleasant. The sense in which I speak of the pleasantness of one's life as a whole is the familiar one in which one speaks e.g. of enjoying one's life at university, or finding married life very pleasant. The relation of this kind of enjoyment to the enjoyment of the particular activities and experiences composing the whole is complicated; on the one hand it is clear that in order to have this 'overall' enjoyment one must enjoy a considerable proportion of the particular activities etc. which make up one's life, while on the other 'overall' enjoyment is not a simple summation of particular enjoyments, since one does not necessarily increase one's 'overall' enjoyment by increasing the number or intensity of one's particular enjoyments. Even leaving aside questions of satiety, from the fact that one enjoyed each of twenty strawberries it does not seem to me to follow that one's enjoyment of the dish would have been greater had it contained another one, even though, had there been another one, one would have enjoyed it too. If this principle holds for such a simple contrast as that between the enjoyment of a dish and the enjoyment of the individual parts of the dish, it seems more obviously to hold the more complicated the context becomes into which the particular enjoyment is fitted. 'Overall' enjoyment is determined not simply by the number and intensity of one's particular enjoyments, but also, in some way which is unclear to me, by the weight or value which certain particular enjoyments assume in one's life as a whole. Despite the evidence of the doxographical tradition represented by Diogenes,²⁶ Cicero²⁷ and Strabo, which I judge to have been unduly influenced by Epicurea-

²⁶ loc. cit.

²⁷ I, p. 61; *D.-K.* 68 A 168.

nism, this idea of overall enjoyment seems nearer to the sense of εὐθυμία than mere tranquility. For that view of εὐθυμία allows us to account for sayings which are quite anomalous on the 'pure tranquility' view, e.g. fr. 200,

ἀνοήμονες βιοῦσιν οὐ τερπόμενοι βιοτῇ,²⁸

and the very striking fr. 230,

βίος ἀνεόρταστος μακρὴ ὁδὸς ἀπανδόκευτος,

where the word ἀνεόρταστος suggests that feasting and merry-making and all the usual accompaniments of a religious festival (έορτή), have a place in the good life. This view has the further advantage of being able to accommodate those fragments (e.g. 3, 174, 215) which stress the role of freedom from trouble and fear in the good life, for it is obvious that fear and worry prevent one from enjoying life. It also enables us to give a good account of two fragments which we may consider as expanding the advice of fr. 74 to avoid harmful pleasures, firstly fr. 71,

ἡδοναὶ ἄκαιροὶ τίκτουσιν ἀηδίας,

and secondly fr. 72,

αἱ περί τι σφοδραὶ ὀρέξεις τυφλοῦσιν εἰς τᾶλλα τὴν ψυχὴν.

We have here two related reasons for avoiding such pleasures, firstly that they cause positive distress (e.g. a hangover), and secondly that they distract one from the kind of activity which produces εὐθυμία (including the pursuit of *moderate* pleasures, fr. 191). We are thus able to attribute to Democritus a doctrine which is not only consistent but which gives a good explanation of the relevant fragments, that while the worth of individual pleasures is judged by a further criterion, that criterion is provided by pleasure itself.²⁹ It is in this sense, I suggest, that we should interpret the testimony of Stobaeus³⁰ that εὐθυμία is produced by the distinguishing and differentiation of pleasures, and is the finest and most useful thing for men. While the differentiation of pleasures is of course the task of practical intelligence, the standard by reference to which they are distinguished from one another is their contribution to the overall enjoyment of life. As the most useful thing this provides the criterion for the assessment of the value of particular

²⁸ fr. 204 is a variant of this.

²⁹ v. McGibbon, 'Pleasure as the "Criterion" in Democritus', *Phronesis* V (1960) pp. 75 ff.

³⁰ ii, 7, 3; *D.-K.* 68 A 167.

pleasures (fr. 74), and as the finest thing it provides the supreme criterion of the moral worth of actions.³¹

The contradiction in Democritus' epistemology is essentially the difficulty that troubled Russell,³² viz. that while all knowledge of the external world is derived from sense-perception, the evidence of perception itself forces us to the conclusion that perception cannot be relied upon, from which it seems to follow that no knowledge of the external world is possible. This difficulty is vividly expressed in fr. 125, where Galen first of all quotes the familiar rejection of sensory information,

νόμῳ χροίῃ, νόμῳ γλυκῦ, νόμῳ πικρόν, ἔτεῃ δ' ἄτομα καὶ κενόν,
and then gives the reply which Democritus puts into the mouth of the personified senses,

τάλαινα φρήν, παρ' ἡμέων λαβοῦσα τὰς πίστεις ἡμέας καταβάλλεις;
πτῶμά τοι τὸ κατὰβλημα.

Now in what sense is the atomic theory based on empirical evidence? Certainly not in the sense that the atoms themselves, and *a fortiori* their numbers, movements, shapes and dispositions, are observable entities. Yet there are two important ways in which the theory does depend on empirical observation. Firstly, the starting-point of the theory was the attempt to account for the diversity of phenomena without either succumbing to the Eleatic elenchus or getting involved in logical difficulties about qualitative differentiation such as vitiated the similar attempt of Anaxagoras. To this end the atomists developed an elaborate system of explanations of physical phenomena by correlation with various dispositions of variously-shaped atoms in the void. But unless one knows enough about the external world to be able to say what it is that is thus correlated with microscopic events, this procedure is obviously absurd. Aristotle emphasises this point in discussing Leucippus³³; in contrast to the Eleatics, who held that perception is altogether illusory and that the only source of knowledge of the world is consideration of the logic of the verb 'is', Leucippus claimed to have a theory which agreed with the data of perception, and which accounted satisfactorily for such basic features of the world

³¹ While this view enables e.g. fr. 207 to be seen as an application of the hedonistic criterion, it is unlikely that Dem. applied it with perfect consistency (v. fr. 194, 174).

³² e.g. intr. to *An Inquiry into Meaning and Truth*.

³³ *de gen. et corr.* 325a 23ff.; *D.-K.* 67 A7.

of sense as coming into being, ceasing to exist, motion and the multiplicity of particular things. Secondly, the atoms themselves and their motion and inter-action were described in terms whose primary application is to the macroscopic world revealed to the senses, not only in that such adjectives as 'round', 'sharp', 'impenetrable', and 'regularly-moving', which derive their sense, directly or indirectly, from the world of experience, were applied to them, but that the mechanical processes observed to govern the macroscopic world were assumed to operate in the microscopic world also, e.g. the assumption that in the original cosmic whirl the larger atoms would collect together and the smaller apart from them depends on the assumption that their behaviour reproduces that of grains in a rotating sieve,³⁴ while the whirl was conceived on the analogy of an eddy of wind or water, in which the lighter atoms are thrown out to the circumference, while the others remain in the centre.³⁵ Unless, therefore, the atomic theory admitted sense-perception as a source of knowledge at least to the extent necessary to give a sense to its central concepts and to establish the facts which grounded by analogy its main hypotheses about the microscopic world, it was bound, as Democritus clearly saw, to refute itself.³⁶

One response to such a situation would be to relapse into complete scepticism, and a number of fragments might be taken to suggest that Democritus did indeed do so, e.g. fr. 117,

ἔτεῃ δὲ οὐδὲν ἴσμεν· ἐν βυθῷ γὰρ ἡ ἀλήθεια,

and frs. 6-10 preserved by Sextus Empiricus,³⁷ of which the most striking is no. 7,

δηλοῦ μὲν δὴ καὶ οὗτος ὁ λόγος, ὅτι ἔτεῃ οὐδὲν ἴσμεν περὶ οὐδενός,
ἀλλ' ἐπιρυσμὴ ἐκάστοισιν ἡ δόξις.

Yet to regard Democritus as a sceptic is to ignore the evidence of the same passage of Sextus that he thought that he had found a way out of his difficulties in the distinction between *σκοπίη* and *γνησίη γνώμη*, the former being equivalent to ordinary, empirical observation of the world, while the latter is a theoretical account of things which supplements the inadequacy of the senses.³⁸ This has generally been taken,

³⁴ fr. 164.

³⁵ Ar. *de caelo* B 13, 295a 10-12; cf. D.L. IX, 31, D.-K. 67 A 1.

³⁶ v. von Fritz, *Philosophie und Sprachlicher Ausdruck bei Demokrit, Plato und Aristoteles* (New York etc. 1940), pp. 19-30.

³⁷ *adv. math.*, VII, 135-140.

³⁸ fr. 11.

as indeed it is by Sextus, as showing that in the last resort Democritus rejected the senses as unreliable and thought that a true account of things could be given only by pure reason. We should thus have to interpret him, not as having believed that he had escaped from his own dilemma, but rather, after the manner of Wittgenstein in the *Tractatus*, as having consciously published a theory containing its own refutation. This interpretation is, however, open to objection on the grounds that it not only ignores certain evidence of Democritus' views on knowledge and perception, especially that of Sextus himself and of the catalogue of Democritus' works given by Diogenes,³⁹ but also that it involves misinterpretation of the crucial fr. 11.

To take the latter point first, the fragment presents a contrast, not between knowledge and ignorance, but between two sorts of γνώμη, of which the function of the superior is not altogether to discredit the other, but rather to supplement its inadequacy. It is when the senses are unable to proceed below a certain level of discrimination (ἐπ' ἔλαττον), and one needs a more precise method of investigation (ἐπὶ λεπτότερον <δέη ζητεῖν>), that γνησίη γνώμη takes over. The trouble with the senses, according to this fragment, is not that they induce one to take illusion for reality, but that they give only a superficial account of the nature of things, as opposed to that insight into their real (i.e. microscopic) nature which the atomic theory provides. Now it is very probable that, like Eddington in his introduction to *The Nature of the Physical World*, Democritus at times used language indicative of a confusion between on the one hand the contrast between the view of the world given by common observation and that given by scientific investigation and on the other hand the quite distinct contrast between the real world and an illusory one. We can, nonetheless, find evidence that he did hold, perhaps with less than perfect consistency and clarity, that the senses did give correct information about the world, and further that their role was in some way central in his theory of knowledge.

The evidence from Sextus comes from the same passage. After quoting the fragment running νόμῳ γλυκύ etc., he continues, "And in the work entitled Κρατυοντήρια, although he had undertaken to assign to the senses control over belief, nevertheless he is found to condemn them,"

³⁹ IX, 45-9; D.-K. 68 A 33.

illustrating this by citing another sceptical fragment, no. 9. So one of the themes of that work was to show that the senses had in some sense the last word in the acquisition of knowledge. The title of this work is significant; it would appear to mean literally either 'strengthening, establishing securely', or else 'getting control', while in the catalogue given by Diogenes the title has a note to the effect that it was 'critical of what had been said before'. Two interpretations of this seem possible, either that it was a work of criticism of his predecessors, or else that it consisted of criticism of his own doctrines; to a work of the former character a title with the sense of overthrowing or refuting would appear more appropriate, while a work establishing one's own views by criticism of one's earlier writings might well be called 'Strengthening Arguments'. In a work of either kind the vindication of the senses could naturally play an important role, either against the Eleatic attack, as in the work of Leucippus referred to by Aristotle,⁴⁰ or against what he may have come to regard as somewhat misleading over-statements in his own works. In any case, the significance of this work for the present argument is that Democritus held the doctrine of the supremacy of sense-perception with sufficient confidence to use it in criticism either of himself or of others.

Yet how could that doctrine be consistent with the general principles of atomistic epistemology, and in particular with the contrast between *γνησίη* and *σκοπίη γνώμη*? I suggest that the complete story is as follows. We begin with the common-sense picture of the world, in which the information provided by the senses is accepted without question. Various considerations, including Eleatic puzzles about plurality and about coming-to-be, and perhaps also considerations of the subjectivity of such sensory data as tastes and colours,⁴¹ lead to dissatisfaction with this picture. A theory of the basic constitution of things is then developed which, taking the common-sense picture as its startingpoint, remedies its deficiencies by showing a) how the phenomena simply presented by the common-sense picture are explained and b) how the difficulties of that picture are eliminated by the postulating of certain fundamental entities and natural laws. Yet though these fundamental entities are unobservable, or at least unobserved, this second, scientific picture of the world is still 'under the

⁴⁰ *D.-K.* 67 A7.

⁴¹ *Sext. Pyrrh. h.* ii, 63; *D.-K.* 68 A 134; Theophr. *de sens.* 63; *D.-K.* 68 A 135.

control of the senses', in two ways. Firstly, since one of the purposes of the theory is to explain the phenomena, any failure to take account of any phenomenon or set of phenomena counts against the theory, either in the sense that it is insufficiently general or, more seriously, that it is directly falsified. Secondly, since the behaviour of the fundamental entities is assumed to be governed by the physical laws of the phenomenal world, any explanation which required a breach of those laws, as discerned by sensory observation, would be illegitimate. Yet clearly, in carrying out this 'controlling' function the senses are subject to the familiar weaknesses which are the product of the dependence of the observer on the physical environment, and hence the theory as a whole can be asserted with only that degree of confidence which those weaknesses allow. This, it seems to me, is the explanation of how it is that Democritus, in maintaining the 'control of the senses over belief', can yet be represented as 'condemning' them. For this condemnation comes to no more than this, that we can never know anything with absolute certainty, but only what changes according to the inter-action of the atoms within and external to us.⁴² The point of this is not to deny altogether the possibility of knowledge, still less to refuse to recognise sense-perception as a source of veridical information; rather it is to point out the necessary limitations of knowledge which depends ultimately on that source.

It is here, I think, that we have the explanation of the apparent inconsistencies in Aristotle's account of Democritus' epistemology. At *de an.* 404a27ff.⁴³ and again at *Met.* Γ 5, 1009b12ff.⁴⁴ he says that Democritus held that all sensation is veridical, while in the immediately preceding sentence of *Met.* Γ he cites Democritus as saying that either nothing is true or that it (i.e. presumably everything) is unclear to us. In themselves these remarks might be taken to describe the same sceptical position, viz. that since there is no criterion of truth by which the data of sensation can be assessed, one may say indifferently that nothing at all is true or that whatever is given in sensation is true. Democritus' position would then be the same as that of Protagoras.⁴⁵ This cannot, however, be an adequate picture; not only do both

⁴² fr. 9.

⁴³ *D.-K.* 68A101.

⁴⁴ *ibid.* A112.

⁴⁵ Philoponus *de an.* p. 71, 19ff.; *D.-K.* 68A113.

Sextus⁴⁶ and Plutarch⁴⁷ say that Democritus argued against Protagoras, but Aristotle twice refers to Democritus in *de gen. et corr.* in a way inconsistent with this interpretation. The first passage is that already referred to,⁴⁸ in which Leucippus is credited with the construction of a theory which reconciled the phenomena revealed by perception with the logical requirements of Eleatic monism; it is reasonable to assume that, while crediting Leucippus with the invention of this theory, Aristotle means here to describe Democritus' views also, since at the beginning of the chapter the theory later outlined as that of Leucippus is introduced as that of Leucippus and Democritus. The second passage,⁴⁹ referring explicitly to both, says that since they held that all perception is veridical, they developed their theory to account for the fact that the data of perception are often contradictory. We can now see how they could combine belief in the truth of their theory with the doctrine that 'truth is in the appearances', viz. by the belief that conflict between the data of perception could not be resolved by showing that one perceptual judgment was truer than another, but only by showing how each of the conflicting perceptual claims arose from the inter-action of the atoms of the observer and of his environment. Every individual has his own common-sense picture of the world, none of which is truer than any other; the only inter-subjectively true picture is the scientific one, which can however claim to be true only in so far as it provides an explanation of *every* common-sense picture, an explanation moreover which depends for its verification on the same potentially conflicting data of perception. The theory is 'under the control of the senses' in that it ultimately relies on empirical confirmation, while at the same time being required to explain all sensory phenomena, none of which can be regarded as more veridical than another. Yet if no empirical judgment is truer than any other, there can be no empirical confirmation of any scientific theory. There is thus a fatal inconsistency in the theory,⁵⁰ of which Democritus may perhaps have been at least dimly aware.

The parallel with the treatment of pleasure should now be clear. In

⁴⁶ *adv. math.* vii, 389; *D.-K.* 68 A 114.

⁴⁷ *adv. Colot.* 4, p. 1108 F; *D.-K.* 68 B 156.

⁴⁸ A 8, 325a23ff.; *D.-K.* 67 A 7.

⁴⁹ A 1, 314a21 ff.; *D.-K.* 67 A 9.

⁵⁰ cf. Theophr. *de sens.* 69; *D.-K.* 68 A 135.

discovering the truth about the world the unreflective man naturally assumes that its nature is completely revealed by sense perception; in the sphere of action his natural impulse is to pursue whatever is immediately pleasant. In each case, however, a rational theory intervenes, showing in the first case that the sensory picture of the world is not completely satisfactory and in the second that a life spent in the pursuit of every immediate pleasure will become unliveable. Yet in neither case is the original impulse so much abrogated as developed to embrace the insight of the new theory. In the cognitive field sense-perception finds its place in controlling the explanatory functioning of the theory in the ways sketched above, while in the sphere of action pleasure gains its position as the criterion of right conduct when its sense has been widened from the enjoyment of a particular action or experience to the enjoyment of life as a whole. Like Vlastos, I see confirmation of this parallelism in fr. 69,

ἀνθρώποις πᾶσι τωῦτόν ἀγαθόν καὶ ἀληθές· ἦδὺ δὲ ἄλλω ἄλλο,

which I, however, interpret in a rather reduced sense. The essential points seem to me to be, firstly, the contrast between qualities inherent in an object irrespective of the observer and those which vary in different observation-situations (the νόμω-ἐτεῆ contrast), and secondly, the conjunction in the first clause of ἀγαθόν and ἀληθές, the objects respectively of practical activity and of cognitive reasoning. The thought appears to be this, that in the practical and theoretical spheres the same contrast applies between the state of affairs as immediately (and misleadingly) apprehended and the true state of affairs which can be grasped only through reflection, and that the man who takes immediate pleasure as the only or the chief guide to action is making the same sort of mistake as the man who takes the common-sense picture of the world as revealed by the senses as adequate. If we bear in mind the close association on the part of some earlier thinkers of pleasure and pain with αἴσθησις⁵¹ (probably undifferentiated between the senses of 'perception' and 'sensation'), this parallelism will not seem particularly farfetched. A similar strain of thought may be discerned in the *Phaedo*, especially at 81 b-83 d, where bodily pleasure and sense-perception are inextricably interwoven; the effect of relying on these is that one comes to believe that the things which cause pleasure and pain are 'clearest and truest' (83c7), and thinks that 'whatever the body says is true' (d6); in contrast, philosophy, in

⁵¹ Theophr. *de sens.* 16; *D.-K.* 31 A 86 (on Empedocles & Anaxagoras).

freeing the soul from the tyranny of the body, shows that ‘investigation by means of the eyes and ears and the other senses is full of deception’ (a4-5). For Democritus, the unreflective man believes that whatever αἰσθησις tells him, whether that this apple is sweet or that the pleasure of drinking is worth pursuing, is true. Rational reflection, however, shows that one should rely, not on any αἰσθησις, but a) on perceptual judgments which verify the atomic theory, and b) on the overall enjoyment of one’s life. The parallel must not be pressed too far, since it also appears that Democritus held, inconsistently with the above, that every perceptual judgment was true, whereas there is no indication from the ethical fragments that he held that every judgment of the worth of an individual action was in the same way true. The ethical theory is therefore saved, perhaps by its very lack of sophistication compared with the physical theory, from the self-refutation to which the latter eventually succumbs.

Further confirmation of this parallelism may, I suggest, be derived from the remarks on criteria with which Sextus closes the account of Democritus to which we have already referred.⁵² Citing as his authority a certain Diotimus,⁵³ he says that Democritus recognised three criteria:

τῆς μὲν τῶν ἀδῆλων καταλήψεως τὰ φαινόμενα - - - ζητήσεως δὲ τὴν ἔννοιαν - - - αἰρέσεως δὲ καὶ φυγῆς τὰ πάθη.

The first clause gives exactly the sense outlined above; ‘the conception of things unseen’, i.e. a theory of the unobservable ‘real nature’ of things, is judged adequate or inadequate according to its ability to account for sensible phenomena. The πάθη, by which is apparently meant pleasure and distress, are the criteria of choice and aversion in that Democritus’ practical theory is a hedonistic one. Finally (following the hint given by Sextus’ reference to *Phaedr.* 237b7-c1) the criterion of the worth of an investigation is one’s conception of the nature of its object. The other two criteria represent the application of ‘his methodological principle to theoretical and practical investigations respectively.

Our conclusion, then, is that the view of Dyroff and Bailey that there is no connexion, or only a loose connexion between Democritus’

⁵² *D.-K.* 68A111.

⁵³ *v. D.-K.* c. 76.

physical and ethical theories cannot be upheld. On the other hand, the attempts of Natorp and Vlastos to locate the connexion in Democritus' conception of the good for man, while not without inherent plausibility, appear not to be substantiated by the evidence cited in their support. Rather the connexion is that both theories may be regarded as examples of an epistemological method in which unreflecting reliance on the data of sensation is replaced by reliance on a rational theory, which yet depends on sensation in that a) the physical theory is subject to empirical verification and b) the good for man is identical with pleasure in the sense of the enjoyment of life.

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