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EPICUREAN ANTI-REDUCTIONISM

## 1. SOME METAPHYSICAL THESES

The topic with which this paper<sup>1</sup> will concern itself is the relation in which, according to Epicurean metaphysics, a complex entity such as a man stands to its constituent parts and qualities. Although Epicureanism and Stoicism both give centre stage to bodily particulars, and in consequence have certain features of their respective epistemologies in common, their metaphysical systems are nevertheless in fact extraordinarily different. Stoicism is a top-down theory, which takes life and intelligence as irreducibly basic features of the world and of at least some of its occupants. The reason why all but a very few of the items in the world, including mental qualities such as virtue, are bodies, is not that body is more metaphysically fundamental than mind or intelligence, but simply that the ability of such things to *cause* anything is held to depend on their capacity for bodily interaction. In Epicureanism, on the other hand, bodies are indeed metaphysically fundamental, since they are, apart from the space which they occupy and move through, the only conceivable *per se* entities.

<sup>1</sup> This paper has, whatever its remaining shortcomings, benefited greatly from the discussion it received at the Siena conference, and from further discussion of some of the issues at a seminar held at the Institute of Classical Studies, London. I am also grateful for substantial comments supplied by Martha Nussbaum, Robert Wardy, André Laks, David Konstan, Glenn Most, and especially Jonathan Barnes. But none of them should be assumed to agree with everything I say. Finally, I was fortunate enough to be able to read some very helpful unpublished work bearing on this subject by Julia Annas, Robert Wardy, Phillip Mitsis, and the late Norman Gulley.

Yet a Stoic-like concern with causality is hardly in evidence here, since in Epicureanism causal interaction goes on all the time between bodies and certain non-corporeal items, namely their properties.

The contrast with the Stoic top-down approach invites the description of Epicureanism as a bottom-up theory, working up to all phenomenal features of the world — colour, life, virtue, etc. — from a set of absolutely basic building blocks, the atoms, which themselves lack these features. But such a characterisation may require some careful qualification.

It is easy to think of Epicurus' own two favourite Pre-socratics, Anaxagoras and Democritus<sup>2</sup>, as the archetypal theorists of the two respective types. Anaxagoras' top-down theory simply takes as given a comprehensive set of phenomenal substances, including not only perceptible properties but also mind itself. These between them adequately account for all more complex phenomena. But any attempt to get behind them to some primitive building bricks on which they in turn depend will inevitably be frustrated: at *any* level of microscopic analysis nothing but these very same substances will be found. A merit of this top-down approach is that the world turns out to be in reality comfortably similar to the way it is perceived to be. If the approach is, despite this, less than satisfying, that is perhaps because it seems to lack a firm explanatory starting point.

By contrast, Democritus' bottom-up theory, atomism, clearly does supply the primitive building bricks, and generates the phenomenal world out of them. Satisfyingly explanatory though this is, it has the demerit that the world now turns out to be in reality utterly different from the way it is perceived to be: all the colours, states of mind, etc. prove to be not real (ἐτερεῖ), but just arbitrary (one of the implications of his contrasting term νόμος) constructions placed by the experiencing subject on atomic aggregates which in the last analysis are

<sup>2</sup> DIOG. LAERT. x 12; PLUT. *adv. Col.* 1108 EF.

quite devoid of such properties. In current jargon, Democritus is an eliminative materialist, who holds that phenomenal states are *nothing* over and above physical states, and infers that they are unreal.

There is an obvious temptation, which has rarely if ever been resisted, to class Democritus' fellow-atomist Epicurus as another thoroughgoing bottom-up theorist. After all, it may have been reasoned, in his world too there is nothing but atoms and void and their states. If, then, the properties of complex bodies are not ultimately just atomic states, they are nothing at all. This assumption that he is some sort of materialist — i.e. that he thinks that all states can be identified with physical states — is virtually ubiquitous in the modern literature<sup>3</sup>.

But there are at least three reasons why the consequence should not be so readily drawn. For one thing, we are all atomists of a sort nowadays, yet by no means all of us find that this commits us in advance to thinking of beauty, love, or freedom as identical to physical states of things' or people's constituent particles. Even without any injection of vitalism, or of Cartesian dualism, there are those, philosophers and non-philosophers alike, who think of such things as belonging to an irreducibly different level of reality from the atomic one.

Second, reductionist remarks are extraordinarily hard to unearth in the extensive remains of Epicurean writings. The Democritean dictum that belief (*δόξις*) is a mere reshaping

<sup>3</sup> The point could be illustrated from the text of almost any major scholar of Epicureanism, but I choose just the most important modern writer on Epicurean psychology, C. DIANO, *Scritti epicurei*, Firenze 1974, p. 146, « ... la legge epicurea delle qualità, le quali riducendosi a un determinato rapporto d'atomi di determinata forma, ... »; *ibid.*, p. 155, « sensazione e pensiero dalle forme più semplici alle più complesse non sono altro che il combinato moto degli atomi della mente o dell'*anima-corpus* con gli atomi che dall'esterno vengono con essi a contatto » (reprinted from Diano's 1939-42 articles, *La psicologia d'Epicuro e la teoria delle passioni*).

(ἐπιρυσμῆ) <sup>4</sup>, for example, has no counterpart in the entire book (*DRN* 4) devoted by Lucretius to psychology. Terminology which has sometimes been assumed to have reductionist implications need not, and often cannot, be so understood. A prominent example is κίνησις, Latin *motus*, and their cognates-terms used in Epicurean texts to describe sensation <sup>5</sup>, judgement <sup>6</sup>, and the “kinetic” pleasures which are contrasted with “katastematic” ones <sup>7</sup>. Surely, it is tempting to reason, since Epicurus is an atomist, pleasures ἐν κινήσει are likely to consist in a certain type of movement of soul atoms <sup>8</sup>. Against this, it must be stressed that κίνησις can in standard usage designate not just locomotion but also a “change” or “process” at any level of analysis. Compare for instance the Stoic division of mental goods into those which are “static” and those “in process” (ἐν κινήσει) <sup>9</sup>. The latter, exactly like the Epicurean pleasures ἐν κινήσει <sup>10</sup>, include joy (χαρά) and delight (εὐφροσύνη). It seems unlikely that Epicurus, any more than the Stoics, meant to imply any particular physical analysis by his choice of terminology here <sup>11</sup>.

<sup>4</sup> 68 B 7 DK.

<sup>5</sup> LUCR. III 352.

<sup>6</sup> EPIC. *ep. Hdt.* 51, quoted p. 323 below.

<sup>7</sup> E.g. PLUT. *adv. Col.* 1122 E, *contra Ep. beat.* 1087 B, 1089 A; Usener 67.

<sup>8</sup> Cf. J. C. B. GOSLING - C. C. W. TAYLOR, *The Greeks on pleasure*, Oxford 1984, pp. 370, 374, who admit the objection that in Epicureanism all atoms are in constant motion; D. K. GLIDDEN, *Epicurus and the pleasure principle*, in *The Greeks and the good life*, ed. D. J. DEPEW, Indianapolis 1980, pp. 177-97.

<sup>9</sup> SVF III 111. Cf. also SEXT. EMP. *M* XI 83, συμβαίνει τι περὶ ἡμᾶς ἀστέιον κίνημα καὶ ἀποδεκτὸν κατάστημα — language closely resembling the Epicurean pleasure terminology, yet in a passage with no special doctrinal presuppositions.

<sup>10</sup> DIOG. LAERT. X 136.

<sup>11</sup> This will be confirmed in section 2 below: pleasure is a σύμπτωμα (SEXT. EMP. *M* X 225), and we will learn that συμπτώματα have no existence below the phenomenal level. This is not to deny that pleasure

Indeed, when Carneades attributed to the Epicureans a belief in an *animi motus voluntarius*, a « volitional process of the mind », he made it clear that he understood this to be a distinctively mental event, not part of the atomic causal nexus at all<sup>12</sup>. Likewise, I shall argue in section 3 that the *κίνησις* which is effectively equated with judgement at *ep. Hdt.* 51 is presented there as a non-physical event. There should therefore be little difficulty in understanding Lucretius, when he refers to sensation as a *motus* at III 352, to mean a psychological and not an atomic process<sup>13</sup>. Although there are also atomic motions underlying sensation, which Lucretius calls the *sensiferi motus*, these are not identical with the sensations, but are, as the name suggests, their cause.

Third, since Epicurus is known to have objected to Democritean atomism above all for its sceptical and deterministic implications, both of which (I would maintain) arose directly from its reduction of sensible properties and mental states to merely physical states, we should not be surprised if we find him rather self-consciously avoiding reductionist lines of thought. That he was indeed self-consciously anti-reductionist I have argued elsewhere in discussing his treatment of determinism<sup>14</sup>, and the object of the present paper is to examine more fully the actual metaphysics involved in such a stance.

By “reductionism” I shall here mean ontological reductionism (as distinct from e.g. theoretical reductionism, the re-

has a *cause* at the atomic level: see LUCR. II 963 ff., IV 622 ff., and cf. section 3 below.

<sup>12</sup> CIC. *de fat.* 24-5, cf. 48. I defend Carneades' reading of Epicurus in *Epicurus' refutation of determinism*, in ΣΥΖΗΤΗΣΙΣ. *Studi sull'epicureismo greco e latino offerti a Marcello Gigante*, Napoli 1983.

<sup>13</sup> The argument in note 11 above can apply once again. For sensation as a *σύμπτωμα*, see *ep. Hdt.* 64, and cf. LUCR. III 357.

<sup>14</sup> *Art. cit.*, note 12. Anti-reductionist readings are also now adopted in T. J. SAUNDERS, *Free will and the atomic swerve in Lucretius*, « SO », 59 (1984) pp. 37-59; A. A. LONG, D. N. SEDLEY, *The Hellenistic Philosophers*, Cambridge 1987; and R. WARDY, *Lucretius on what atoms are not*, « CP », 83 (1988).

duction of one *theory* to another). That is, I shall use the term to cover any theory which holds that one group of entities (whether types or tokens) is reducible to, i.e. exhaustively analysable in terms of, another group of entities held to be somehow more fundamental. "Water = H<sub>2</sub>O" is a simple example; but the most interesting cases tend to be those asserting that some mental state, e.g. belief, is identical with some physical state of the brain and/or nervous system. Such reductionist theories of mind may also be called "identity" theories, but this term requires caution. Identity is a reciprocal relation, whereas the relation of being reducible to is not. Those who reduce the mental to the physical do not usually also reduce the physical to the mental. Hence the reduction of *x* to *y* requires not just that  $x = y$ , but also some further, asymmetrical relation, e.g. that *y* is more basic to one's ontology, more scientifically measurable and predictable, or of greater explanatory power, than *x*. If *y*'s superiority to *x* in one or more of these regards is overwhelming, there may be a temptation to go beyond mere reduction and to withdraw *x* from one's ontology altogether — the option taken up by eliminative materialism. But it is hard to believe that any scholar would, if pressed, insist on bracketing Epicurus with Democritus as an eliminativist. His assertion of the reality of phenomenal properties is, as we shall see, too unambiguous for that. Epicurus, if a materialist at all, would have to be viewed as a non-eliminative materialist: he might, indeed, be thought to hold that what makes colours, beliefs, etc. real is precisely the fact that they are identical with atomic states. But it is, at any rate, a standard presupposition in reductionist readings of Epicurus that atoms and vacuum are, if not the only things there are, at least the entities most basic to his ontology, and therefore the items to which all other things will be reducible. It is with this that I shall open my quarrel.

## 2. WAYS OF EXISTING

According to Epicurus<sup>15</sup>, only bodies and void exist in their own right, or *per se*. This firm opening announcement is easily read as a move towards reducing all existing things to atoms and absolute vacuum. But already we must be cautious. Epicurus is in fact quite explicit in the opening paragraphs of the *Letter to Herodotus* that by “bodies” he means above all phenomenal objects, and that “void” here serves as his general term for the space which these familiar objects are seen to occupy and pass through:

« That bodies exist is universally witnessed by sensation ... And if place, which we call “void”, “room” and “intangible substance”, did not exist, the bodies would have nowhere to be or to move through in the way in which they are observed to move »<sup>16</sup>.

The derivation, from these untechnical conceptions of body and space, of the ultimate particles, separated by vacuum, is a subsequent *downward* move. And at no stage are we given the impression that the atoms, once introduced, supersede phenomenal bodies as the real existents or are even ontologically privileged with respect to them. In other words, the initial suggestion that the *per se* existents of Epicurus' world include men and stones is never retracted in favour of a Democritean world in which atoms and void alone are fully real. On the contrary, the evidence which we will go on shortly to examine unambiguously includes men, stones and the like prominently among the *per se* existents. Epicurus certainly holds that atoms and vacuum are in many scientific contexts (though not all, as we shall see) *aetiologically* primary: that is why his physics focuses constantly on events

<sup>15</sup> EPIC. *ep. Hdt.* 39-40, cf. 68; LUCR. I 419-20, 445-6, 479-80.

<sup>16</sup> EPIC. *ep. Hdt.* 39-40, following Usener's readings, which I have defended in *Two conceptions of vacuum*, « *Phronesis* », 27 (1982) pp. 175-93.

at the atomic level, and why he dubs Leucippus and Democritus « the first adequate exponents of aetiology »<sup>17</sup>. But the temptation to add ontological to aetiological primacy is, I hope to show, a mistaken one, perhaps fuelled by a false assimilation of Epicurean to Democritean metaphysics.

To know what *per se* existence amounts to, we must ask what it contrasts with. Familiarly, the Greek term καθ'αυτό can be opposed either to (κατὰ) συμβεβηχός, or to πρὸς τι. In the *Letter to Herodotus*, only the former of these occurs in antithesis to καθ'αυτό. But there is a complication. The same work is regularly<sup>18</sup> understood to contrast *per se* existents not straightforwardly with συμβεβηχότα but with two coordinate kinds of property, συμβεβηχότα and συμπτώματα. Moreover, συμβεβηχότα are taken to differ from συμπτώματα, "accidents", precisely by being *non-accidental* properties.

Now this, if true, would be curious. First, although συμβεβηχός need not necessarily carry strong implications of "accident", and could just neutrally designate "what belongs"<sup>19</sup>, it would be a puzzling departure from Greek usage to reserve it as a term for marking off *essential* properties. If Epicurus is indeed making such an innovation, he had better have some very special reasons. Second, if συμβεβηχός is endowed with this new sense, it cannot *also* serve in its more familiar role as the contradictory of καθ'αυτό.

Two texts in particular have suggested that this is nevertheless what Epicurus intends. One is the sentence immediately following those quoted above from the *Letter to Herodotus*:

<sup>17</sup> EPIC. *nat.* 34.30.7-8 Arr.<sup>2</sup>

<sup>18</sup> I cannot recall that any scholar more recent than Bignone (*Epicuro*, Bari 1920) has treated this reading with the suspicion it deserves. But the view defended here is also now adopted in LONG-SEDLEY, *op. cit.*, § 7.

<sup>19</sup> Cf. ARIST. *top.* 152 a 33-6; and the Stoic usage of the term, discussed by M. Schofield in this volume.

« Beyond these [*sc.* bodies and void] nothing can even be thought of, either by imagination or by analogy with what is imagined, as corresponding to complete natures, and not as what are called the accidents (*συμπτώματα*) or properties (*συμβεβηκότα*) of these »<sup>20</sup>.

Here the pairing of two apparently co-ordinate terms suggests that *συμβεβηκότα* must be *non*-accidental properties. The other text is an important passage from book I of Lucretius:

nam quaecumque cluent, aut his coniuncta duabus  
 rebus ea inuenies aut horum eventa videbis. 450  
 coniunctum est id quod nusquam sine perituali  
 discidio potis est seiungi seque gregari,  
 pondus uti saxis, calor ignis, liquor aquai,  
 tactus corporibus cunctis, intactus inani.  
 seruitium contra paupertas diuitiaeque, 455  
 libertas bellum concordia, cetera quorum  
 adventu manet incolumis natura abituque,  
 haec soliti sumus, ut par est, eventa vocare.

« For all things which are spoken of you will find to be either fixed properties of these two [i.e. bodies and void] or accidents of them. A fixed property is that which can at no point be separated and removed without fatal destruction resulting — as weight is to stones, heat to fire, liquidity to water, tangibility to all bodies, and intangibility to void. By contrast slavery, poverty, wealth, freedom, war, peace, and all the other things whose arrival and departure a thing's nature survives intact, these it is our practice to call, quite properly, accidents ».

What can *coniunctum* and *eventum* translate here if not *συμβεβηκός* and *σύπτωμα* respectively?

Against this evidence, however, we must set the fact that no other Epicurean source observes any such special restriction on *συμβεβηκός*. Indeed, the distinguished Epicurean Demetrius of Laconia (*ca.* 100 B.C.) attributed a different, and much more plausible, usage to Epicurus. According to Sextus<sup>21</sup>, in

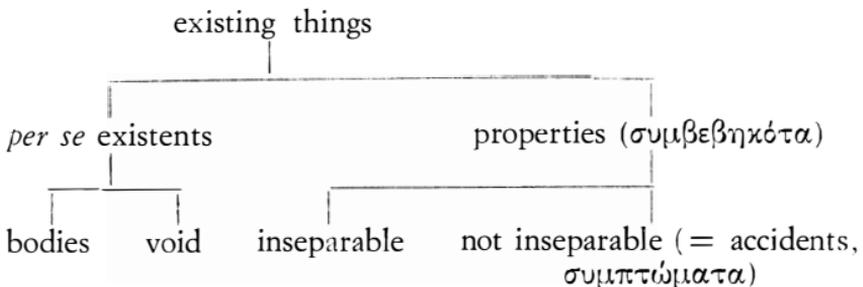
<sup>20</sup> *Ep. Hdt.* 40.

<sup>21</sup> SEXT. EMP. *M* x 219-27.

the course of justifying his interpretation of Epicurus as making time an “accident of accidents”, Demetrius “expounds” (ἐξηγεῖται) Epicurus as follows:

« Of things that exist some exist *per se* while others are viewed as belonging to *per se* things. What exist *per se* are things like the substances (οὐσίαι), namely body and void, while what are viewed as belonging to *per se* things are what they call “properties” (συμβεβηκότα). Of these properties some are inseparable from the things of which they are properties, others are of a kind to be separated from them. Inseparable from the things of which they are properties are, for example, resistance from body and non-resistance from void. For body is inconceivable without resistance, and so is void without non-resistance: these are permanent properties of each — resisting of the one, yielding of the other. Not inseparable from the things of which they are properties are, for example, motion and rest. For compound bodies are neither always in ceaseless motion nor always at rest, but sometimes have the property of motion, sometimes of rest (although the atom in itself is in everlasting motion, since it must approach either void or body and if it should approach void it moves through it because of its non-resistance, while if it should approach body it ricochets and moves away from it because of its resistance). Hence the things which time accompanies are accidents — I mean day, night, hour, presence and absence of feelings, motions and rests. For day and night are accidents of the surrounding air... »<sup>22</sup>.

This could hardly be clearer:



<sup>22</sup> *Ibid.* 220-224.

Need we doubt the accuracy of this report? It is true that the diaeretic method of presentation is not characteristic of Epicurus. Demetrius is almost certainly himself responsible for applying it as a tool of analysis. But there is nothing objectionable in using currently fashionable analytic tools in the study of ancient texts, provided the analysis is accurate. And it must be said that Demetrius' scholarly credentials are first rate. The exegesis of Epicurus' text was a speciality of his, and in the fragments of *PHerc.* 1012 we can glimpse the seriousness with which he undertook the task<sup>23</sup>. In col. 38 he discusses the exact reading of *Κυρίαὶ δόξαι* 3, comparing variants in the textual tradition and describing some MSS as inferior. In cols. 42-7 he debates with his colleague Zeno of Sidon a passage in which Epicurus explicitly located the rational mind in the chest. By 100 B.C. it was a scientific commonplace (at any rate outside the Stoic school) that the head was the mind's true location, and the Epicureans were apparently much exercised with the familiar problem of squaring biblical texts with modern science. Zeno, it seems, hoped to solve the problem by emendation, excising Epicurus' reference to the chest and leaving him with the description of the mind as being located « where movement and feeling pull us most », without further specification. Demetrius' own solution, if any, is lost in the lacunae, but both here and in a later discussion of another textual crux (48-50) he appears unsympathetic to solving the problem by textual surgery. He emerges as a cautious and meticulous scholar of Epicureanism, reluctant to hack a canonical text about in the cause of saving the appearances.

There is, then, a strong *prima facie* case for accepting Demetrius' exegesis of Epicurus, at least in outline. According to it, existent things divide up into *per se* existents and *συμβεβηκότα* of *per se* existents. The latter further divide

<sup>23</sup> See E. PUGLIA, *La filologia degli epicurei*. « Cronache ercolanesi », 12 (1982) pp. 19-34.

into inseparable and non-inseparable properties. Non-inseparable properties are called *συμπτώματα*, while the inseparable ones are not given a special name. We will see shortly that Epicurus' account of the matter in *ep. Hdt.* 68 ff., perhaps the very text which Demetrius is analysing, is entirely consistent with this. First, though, it should be noted that the same is true even of the Lucretius text reported above. His *eventa* clearly translates *συμπτώματα*, and he presents this in 458 as an existing item of Epicurean terminology. But since no such claim is made for *coniuncta* (451-4), there is no compulsion to read it as directly translating *συμβεβηκότα* or any other single Greek word: it can just as well be Lucretius' coinage to do duty for a Greek *phrase* meaning "inseparable properties"<sup>24</sup>. We will see shortly that this is borne out by Epicurus' own usage.

This only leaves us with the pairing *συμπτώματα ἢ συμβεβηκότα* in *ep. Hdt.* 40 to account for. It is a familiar linguistic phenomenon that where a genus has two species, only one of which has its own class name, the genus name often stands in as a designation of the nameless species. Just as "men or animals" is intelligible shorthand for "men or non-human animals", so too "accidents or properties" may simply indicate "accidents or other properties"<sup>25</sup>.

This clears the way for interpreting Epicurean *καθ' αὐτά* existents as so called by way of contrast with *συμβεβηκότα* alone, the latter being not accidents but things which exist by virtue of "belonging" to something, i.e. by virtue of being properties. Much like the substances of Aristotle's *Categories*, Epicurean *per se* existents are distinguished by their possession

<sup>24</sup> Cf. Lucretius' selection of *anima* and *animus* for what in the Greek sources are just called τὸ ἄλογον and τὸ λογικόν (τῆς ψυχῆς), *EPIC. ep. Hdt.* 66 scholion, *DIOG. OEN.* xxxvii 1.5-7.

<sup>25</sup> Likewise at *EPIC. ep. Hdt.* 50, *φαντασίαν* [...] εἴτε μορφῆς εἴτε συμβεβηκότων must mean «impression [...] whether of shape or of other properties».

of self-subsistent natures<sup>26</sup> from things which exist only parasitically, by courtesy of the further entities to which they belong as properties.

We are now ready to turn to Epicurus' own account of *συμβεβηκότα* at *ep. Hdt.* 68 ff. This is not the direct counterpart of the Lucretius passage quoted above. The latter occurs at an early point in the overall exposition (corresponding to the sentence from *ep. Hdt.* translated on p. 305 above), before the atomic nature of body has been revealed, and has the simple function of defending the restriction of *per se* existence to body and void by arguing that all other existent things will inevitably turn out to be properties of these and not self-subsistent. *Ep. Hdt.* 68 ff. belongs to a much later context, where the nature and causal role of atoms have already been set out. Its task is above all to clarify the ontological standing of properties (and, in the sequel, of time) in the light of what precedes.

ἀλλὰ μὴν καὶ τὰ σχήματα καὶ τὰ χρώματα καὶ τὰ μεγέθη  
καὶ τὰ βάρη καὶ ὅσα ἄλλα κατηγορεῖται σώματος ὡς αἰεὶ  
συμβεβηκότα — ἢ πᾶσιν ἢ τοῖς ὁράτοις καὶ κατὰ τὴν αἴσθη-  
σιν αὐτοῖς γνωστοῖς — οὐθ' ὡς καθ' ἑαυτὰς εἰσι φύσεις  
δοξαστέον — οὐ γὰρ δυνατὸν ἐπινοῆσαι τοῦτο· οὐθ' ὅλως 5  
ὡς οὐκ εἰσίν· οὐθ' ὡς ἕτερ' ἄττα προσυπάρχοντα τούτῳ  
ἀσώματα· οὐθ' ὡς μόρια τούτου, ἀλλ' ὡς τὸ ὄλον σῶμα  
καθόλου μὲν (ἐκ) τούτων πάντων τὴν ἑαυτοῦ φύσιν ἔχον  
αἰδῖον οὐχ οἷόν τε εἶναι, συμπεφορημένων ὡσπερ ὅταν ἐξ  
αὐτῶν τῶν ὄγκων μεῖζον ἄθροισμα συστήῃ ἤτοι τῶν πρώτων 10  
ἢ τῶν τοῦ ὄλου μεγεθῶν τοῦδέ τινος ἐλαττόνων, ἀλλὰ  
μόνον ὡς λέγω ἐκ τούτων ἀπάντων τὴν ἑαυτοῦ φύσιν ἔχον  
αἰδῖον. καὶ ἐπιβολὰς μὲν ἔχοντα ἰδίας πάντα ταῦτα ἐστὶ καὶ  
διαλήψεις, συμπαρακολουθοῦντος δὲ τοῦ ἀθροῦ καὶ οὐθαμῆ  
ἀποσχιζομένου, ἀλλὰ κατὰ τὴν ἀθροῦ ἐννοιαν τοῦ σώματος 15  
κατηγορίαν εἰληφότος. καὶ μὴν καὶ τοῖς σώμασι συμπίπτει  
πολλάκις καὶ οὐκ αἰδῖον παρακολουθεῖ ἢ οὐτ' ἐν τοῖς ὁρά-  
τοις ἔσται οὔτε ἀσώματα. ὥστε κατὰ τὴν πλειίστην φορὰν

<sup>26</sup> Cf. EPIC. *ep. Hdt.* 40, ὅλας φύσεις, translated above as “complete natures”; *ep. Hdt.* 68, quoted below, καθ' ἑαυτὰς [...] φύσεις.

20 τούτῳ τῷ ὀνόματι χρώμενοι φανερά ποιούμεν τὰ συμπτώματα  
 οὔτε τὴν τοῦ ὄλου φύσιν ἔχειν, ὃ συλλαβόντες κατὰ τὸ  
 ἀθρόον σῶμα προσαγορεύομεν, οὔδὲ τὴν τῶν αἰδίων παρα-  
 κολουθούντων ὦν ἄνευ σῶμα οὐ δυνατὸν νοεῖσθαι. κατ' ἐπι-  
 βολὰς δ' ἂν τινὰς παρακολουθοῦντος τοῦ ἀθρόου ἕκαστα  
 25 προσαγορευθεῖη, ἀλλ' ὅτε δὴποτε ἕκαστα συμβαίνοντα θεω-  
 ρεῖται, οὐκ αἰδίων τῶν συμπτωμάτων παρακολουθούντων.  
 καὶ οὐκ ἐξελατέον ἐκ τοῦ ὄντος ταύτην τὴν ἐνάργειαν, ὅτι  
 οὐκ ἔχει τὴν τοῦ ὄλου φύσιν ὧ συμβαίνει, ὃ δὴ καὶ σῶμα  
 προσαγορεύομεν, οὔδὲ τὴν τῶν αἰδίων παρακολουθούντων.  
 οὐδ' αὖ καθ' αὐτὰ νομιστέον — οὔδὲ γὰρ τοῦτο διανοητὸν  
 30 οὔτ' ἐπὶ τούτων οὔτ' ἐπὶ τῶν αἰδίων συμβεβηκότων. ἀλλ'  
 ὅπερ καὶ φαίνεται συμπτώματα πάντα τὰ σωμαίων νομισ-  
 τέον, καὶ οὐκ αἰδίων παρακολουθοῦντα οὐδ' αὖ φύσεως καθ'  
 ἑαυτὰ τάγμα ἔχοντα. ἀλλ' ὄν τρόπον αὐτῇ ἢ αἰσθησις τὴν  
 ἰδιότητα ποιεῖ θεωρεῖται.

« Now as for the shapes, colours, sizes, weights, and other things predicated of a body as permanent properties — belonging either to all bodies or to those which are visible, and knowable in themselves through sensation — we must not hold that they are *per se* natures: this is inconceivable. Nor, by any means, that they are non-existent. Nor that they are some distinct incorporeal things accruing to the body. Nor that they are parts of it; but that the whole body cannot have its own permanent nature consisting *entirely* of the sum total of them, in an amalgamation like that when a larger aggregate is composed directly of particles, either primary ones or magnitudes smaller than such-and-such a whole, but that it is only in the way I say that it has its own permanent nature consisting of the sum total of them. And these things all have their own ways of being focused on, and differentiations, yet with the whole complex accompanying them and at no point separated from them, but with the body receiving its predicate according to the complex conception.

Now there often also accidentally befall bodies, and impermanently accompany them, things which will neither exist at the invisible level nor be incorporeal. Therefore by using the name in accordance with its general meaning we make it clear that 'accidents' have neither the nature of the whole which we grasp collectively through its complex [of properties] and call 'body', nor that of the permanent concomitants without which body cannot be thought of. They get their individual

names through certain ways of being focused on, in concomitance with the complex, but just whenever they are seen to become properties of it, accidents being impermanent concomitants. And we should not banish this self-evident thing from the existent, just because it does not have the nature of the whole of which it becomes a property — ‘body’, as we also call it — nor that of the permanent concomitants. Nor should we think of them as *per se* entities: that is inconceivable too, for both these and the permanent properties. But we should think of all the accidents of bodies as just what they seem to be, and not as permanent concomitants or as having the status of a *per se* nature either. They are viewed in just the way that sensation itself individualises them ».

We may start by observing that terminologically this text is entirely in accord with Demetrius’ exegesis. The inseparable properties have no single term corresponding to them, but are described variously as ἀεί συμβεβηκότα (perhaps)<sup>27</sup>, as τὰ αἰδίων παρακολουθοῦντα (21-2, 28), and as τὰ αἰδίων συμβεβηκότα (30). And, at least in its present-tense form, συμβαίνειν is used of the relation in which συμπτώματα, as much as permanent properties, stand to their bearers (24, 27), thus strengthening Demetrius’ view that συμβεβηκότα is the generic term for both kinds of property. Note too that, like Lucretius, Epicurus presents συμπτώματα as regular school terminology (18-19), but offers no comparable hint for the “fixed properties”.

<sup>27</sup> In lines 2-3 the codd. have ὡς ἂν εἰς ταῦτα βεβηκότα. I read ὡς ἀεί συμβεβηκότα, on the lines suggested by Bignone’s ὡς ἂν ἀεί συμβεβηκότα. The more favoured emendation ὡσανεὶ συμβεβηκότα (Galesius) assumes the interpretation of συμβεβηκότα which I am calling into question. The textual corruption neutralises the evidential value of this line, but note at least that the unqualified use of συμβεβηκότα here is not suggested by any other part of the passage. Other emendations which I have adopted include Gassendi’s οὐθ’ ὡς for ὡς οὐθ’ (6); παρακολουθεῖ ἅ for παρακολουθεῖν or -θεῖ (17); along the lines of Bignone’s -θεῖ ἅ γ’; Usener’s ἔσται for καί (18); and σωμαίων for -τα (31), as suggested by Usener’s -τος.

The distinction between the two kinds of property is itself, I think, straightforward in outline, and successfully explained in the above texts. "Permanent properties" are essential features of a thing's nature, "accidents" are inessential extras. The language of all three texts (Lucretius, Demetrius, Epicurus) makes it plain, as one would in any case expect of Epicurus<sup>28</sup>, that this is a *de re* distinction, concerning what does and what does not constitute a thing's nature, and not just a *de dicto* distinction about what does and what does not entitle the thing to its name.

Since the two kinds of property exist by belonging to *per se* entities (Lucretius I 445-50), their range can give us a clue as to the range of *per se* entities. Epicurus seems interested in three classes of *per se* entity: first and foremost, body as such (2-3, 20-2, 27-8); second, perceptible body (3-4); third, visible body (3). It is only to this last group that colour (1; i.e. the property of being coloured, rather than of having this or that colour) belongs as a permanent property, whereas the other properties listed in lines 1-2 — shape, size and weight — will belong inseparably to all three groups. Lucretius' examples add a further degree of specificity in the kinds of *per se* entity chosen: they implicitly make men prominent, as the *per se* existents of which slavery, poverty, war and their opposites exist as accidents (I 445-6; see also 467, where the point becomes explicit). Stones, fire and water also feature (I 453) as bearers of certain inseparable properties over and above those pertaining to body as such.

All this confirms our earlier impression about the generously defined scope of "*per se* existents". Indeed, atoms are never actually singled out as bearers of either kind of property. This will be because accidents do not exist at the microscopic level (Epicurus text, 17-18), while, although some permanent properties do, even these are never unique to the microscopic,

<sup>28</sup> Cf. DIOG. LAERT. X 34, τῶν τὲ ζητήσεων εἶναι τὰς μὲν περὶ τῶν πραγμάτων, τὰς δὲ περὶ ψιλλῶν τὴν φωνήν.

but belong rather to body and space as such, at any level (3-4) — viz. weight, size, tangibility etc. to body, yielding and intangibility to space (Lucretius I 433-9; Demetrius of Laconia cited above; cf. also note 34 below). Atoms and void are, after all, unalterable, so might be thought to lack all accidental properties<sup>29</sup>. And since the essential properties of atoms and void are knowable primarily through analogy with sensible bodies, Epicurus would tend to think of these as the shared properties of all bodies (for the specific case of tangibility and intangibility, see below). Thus it is that the microscopic entities of Epicurean physics earn a rather unemphatic position in Epicurean metaphysics.

Next, we can note the mainly negative description of these properties' mode of existence — most of the points made apparently applying to both types. They are not to be thought of either as bodily parts (7-11), or as incorporeals (6-7, 18), these being notions primarily appropriate to *per se* existents (a point made explicitly for “incorporeal” at *ep. Hdt.* 67). But they certainly exist. Epicurus thus shuns both the Democritean extreme of making them unreal, and the Stoic extreme of buying their existence at the price of making them bodily parts. In the case of permanent properties, they are perhaps parts of a sort — explicitly *not* material parts (7-11), but something more like conceptual parts (11-16)<sup>30</sup>. What does this amount to? One might be tempted to

<sup>29</sup> This admittedly leaves some loose ends. Demetrius of Laconia clearly, and rightly, feels uncomfortable about how to classify the perpetual motion of atoms (see his parenthesis in the text translated on p. 306 above). Either it is an accident, in which case there *are* accidents at the microscopic level (others might include the atoms' precise trajectories, and their swerves); or it is inseparable, in which case there is at least one inseparable property which atoms do not share with all bodies (another might be their indivisibility).

<sup>30</sup> Epicurus seems to use ἀθρόον for the complex of conceptual parts (14, 15, 21, 23), by contrast with ἄθροισμα (10), an aggregate of material parts. Cf. SEXT. EMP. *M* IX 437, where, apparently echoing the Epicurean analysis of body quoted in note 34 below, he describes

imagine an Epicurean equating an inventory of these conceptual parts with a definition, e.g. thinking of a man as an amalgam — rational plus mortal plus animal, in line with the accepted definition « Man is a rational, mortal animal »<sup>31</sup>. But formal definition is, for various reasons, not a tool favoured by Epicurus, and in any case generic items like “ animal ”, ubiquitous in definitions, seem unlikely to count as “ properties ” in the Epicurean scheme<sup>32</sup>. A more plausible lead is offered by the formula which Sextus quotes from Epicurus, « Man is such-and-such a formation, plus animateness (ἄνθρωπον εἶναι τὸ τοιουτονὶ μὀρφωμα μετὰ ἐμψυχίας) »<sup>33</sup>. This, as Sextus notices, fails dismally as a formal definition of man, and I find it incredible that it was intended as such. On the other hand, it would fit in very naturally as an illustration (incomplete, of course) of the way in which a complex entity like man is compounded out of a set of essential properties. I suspect that this may have been its original context. The same goes for another report preserved by Sextus, to the effect that Epicurus made size, shape, resistance and weight the conceptual parts of body itself<sup>34</sup>. Since Epicurus holds all such properties to be directly available in experience, his empiricism is well served by such a way of analysing a thing’s nature. The human shape (μὀρφωμα) is the most familiar

it as ἄθροα [...] ποιότης κατ’ ἐπισύνθεσιν σχήματος καὶ μεγέθους καὶ ἀντιτυπίας λαμβανομένη.

<sup>31</sup> For Epicurean acceptance of this standard definition, see ANON. in *Plat. Theaet.* xxii 39-47, and cf. PHILOD. *sign.* xxxiv 5-12.

<sup>32</sup> E.g. if so generic an item as “ body ” is a *per se* existent, why not an “ animal ” too? But it is safer to say that the Epicurean metaphysical theory is simply not designed to sort out universals from particulars or genera from species.

<sup>33</sup> SEXT. EMP. *M* vii 267, cf. *PH* ii 25. See also M. GIGANTE, *Scetticismo ed epicureismo*, Napoli 1981, pp. 149-52, for the suggestion that traces of this formula can be found in the fragments of EPIC. *nat.* xv.

<sup>34</sup> SEXT. EMP. *M* x 240, ... λέγη ὁ Ἐπίκουρος τὸ σῶμα νοεῖν κατ’ ἐπισύνθεσιν μεγέθους καὶ σχήματος καὶ ἀντιτυπίας καὶ βάρους.

essential property of man, yet one which formal classificatory definitions conspicuously fail to pick out.

As for accidental properties, they seem to be explicitly tied to the phenomenal level. They are, Epicurus tells us, describable in accordance with certain ἐπιβολαί (22-4); and an ἐπιβολή, we know, is the focusing of a cognitive organ, a (mode of) apprehension, either by direct sensation or by imagination<sup>35</sup>. Accidents, he says, are spoken of just when they are seen to belong (22-5); the way they appear is the way they are (30-2); they are individuated by sensation (33-4). Most important of all, they do not exist at the microscopic level (ἐν τοῖς ἀοράτοις, 17-18), but only in direct experience. Hence Epicurus is trying to maintain a delicate balance between, on the one hand, their observer-dependent nature, and, on the other, his defence against Democritus of their objective reality. Evidence from other Epicurean texts shows that the school conceded, in the face of sceptical attacks, that observer-dependent properties are relative, but argued ably against the familiar sceptical inference from relativity to unreality<sup>36</sup>.

Permanent properties by contrast do, as we have seen, exist at the microscopic level of atoms and void. Atoms, just as much as rocks, have weight as an inalienable characteristic. Even here, however, the properties in question are according to Epicurean epistemology intrinsically observable ones which we can attribute to atoms on the basis of analogy with the perceptible. Epicurus is therefore within his rights when he describes permanent properties as « having their own ἐπιβο-

<sup>35</sup> For the evidence, see e.g. E. ASMIS, *Epicurus' scientific method*, Ithaca-London 1984, esp. pp. 122-6.

<sup>36</sup> POLYSTR. *de contemptu*, ed. G. INDELLI, Napoli 1978, esp. cols. 23-6, well discussed by G. STRIKER, *The ten tropes of Aenesidemus*, in *The skeptical tradition*, ed. M.F. BURNYEAT (Berkeley-Los Angeles-London 1983), pp. 95-115; also the apparently Epicurean text contained in P.Oxy. 3658 (*The Oxyrhynchus Papyri*, vol. 52, 1984). For colours as relative to vision, see PLUT. *adv. Col.* 1110 c = Usener 30.

λαί » (13). Solidity, even when attributed to an atom, is a property characterisable in terms of the sense of touch. Hence the Epicureans elsewhere define body and void in general as, respectively, the tangible and the intangible<sup>37</sup>.

We can sum up this section by saying that Epicurean ontology tends to have phenomenal entities as its central focus, and in no way privileges atoms over them. Moreover, accidental properties, far from being reducible to atomic states, are specifically said to have no existence at the microscopic level. I conclude that Epicurus is no reductionist. Accidents are real, but irreducibly different from atomic states.

### 3. CAUSALITY

Does this make Epicurus an epiphenomenalist, regarding phenomenal states not as identical to atomic states but as their incidental by-products? To answer this we must ask quite generally in what causal relation he thinks properties stand to bodies. I have spoken of atoms and vacuum as aetiologically rather than ontologically primary for Epicurus: as much of Lucretius' poem attests, events at the microscopic level are held to provide a comprehensive and economical causal explanation of numerous features of the macroscopic world. Thus accidents such as the blueness of the sky and the setting of the sun are undoubtedly *caused* by underlying atomic configurations and processes. So, presumably, are macroscopic essential properties, e.g. a stone's possession of

<sup>37</sup> LUCR. I 433-9; EPIC. *ep. Hdt.* 40 (see above, p. 303), ἀναφή ῥύσιν. Neither passage specifies whether "touch" in this context is "contact" or the tactile sense. LUCR. III 161-7 may favour the former, but *PHerc.* 19/698 (probably by Philodemus; ed. W. SCOTT, *Fragmenta Herculanensia*, Oxford 1885), col. 17 (= Long-Sedley 16 c 1) confirms that the latter is at least included: body is the special object of the sense of touch.

colour, by contrast with, say, air's colourlessness. This is "upward" causation.

Likewise there is certainly horizontal causation, at both microscopic and macroscopic levels. By this I mean that the properties of a thing, whether it be an atom or a stone, can act causally upon it, i.e. bring about new properties or other effects in it. The (inseparable) properties of an atom, such as its weight and shape, directly determine its direction of motion and its reactions to collisions. And both the essential and the accidental properties of a macroscopic object must affect its behaviour: men's movements are affected not only by their possession of weight and resistance but also by such accidental states as slavery, war and illness. Indeed, the Epicurean Polystratus argues for the reality of relational properties like harmfulness precisely on the ground that they are self-evidently efficacious<sup>38</sup>.

But is there also downward causation? Can the properties of a macroscopic body act causally on its atomic components? It may be hard at first to see how they could. For example, if a macroscopic object is sufficiently dense it falls to the bottom when dropped in water. It is sound Epicureanism to conclude that the object's density is the cause of *its* falling. But there seem to be no grounds for adding that the object's density is also the reason why each atom in it, taken individually, falls. At the atomic level, each atom's behaviour is accountable in terms of its own weight, perhaps the occasional random swerve, and its collisions with other atoms. Thus one might conclude that in Epicureanism all causation is either upward (from the atomic to the macroscopic) or horizontal (from the atomic to the atomic, or from the macroscopic to the macroscopic).

On this picture, all macroscopic events are likely to be supervenient consequences of atomic events. The macroscopic events have (horizontal) macroscopic causes, but their primary

<sup>38</sup> POLYSTR. *de contemptu* XXIV 17-XXV 14.

causes will be found at the atomic level. When the water in a kettle changes to steam, the immediate cause may be an accidental property, its becoming hot; but that accident, although it has no *existence* at the microscopic level, is nevertheless *caused* by a set of underlying atomic changes. In short, if an Epicurean world lacks downward causation, all macroscopic properties are mechanically caused by the motions of atoms.

Was Epicurus willing to stomach this conclusion? Emphatically, no. That even human behaviour should be mechanically determined was an unacceptable outcome of Democritean atomism which Epicurus, famously, felt able to resist<sup>39</sup>. Moreover, his denial of it involves an express assertion of downward causation. Lucretius, on Epicurus' behalf, assures us that the cause of autonomous action must be the mind's volition, and that the *copia materiai*<sup>40</sup> in the limbs is directed by this volition (II 251-83, especially 261-2, 266-71, 279-93). Now the "mind" is itself the physical organ of consciousness<sup>41</sup>, comparable to the brain and nervous system in modern physiology. But "the mind's volition" (its *voluntas*, 257, 261, 270, 276; its *studium*, 268) can only be an accidental property of that organ. It therefore follows from everything we have learnt so far that volition exists only at the level of experience, not at the atomic level. Yet volition is said to act *upon* our atomic matter.

I myself believe that it was partly in order to make this downward causation possible that Epicurus introduced the much disputed random swerve of atoms: a volition can influence an atom's motion only if the laws of atomic motion

<sup>39</sup> EPIC. *nat.* 34.30.7 ff. Arr.<sup>2</sup>; CIC. *de fat.* 21-3; DIOG. OEN. xxxii 1-3.

<sup>40</sup> If it should be doubted that *copia materiai* at II 266 and 281 refers to atoms, it is enough to look at the lines immediately following this passage, 294-302, where the same expression unambiguously designates atoms.

<sup>41</sup> EPIC. *ep. Hdt.* 63 ff.; LUCR. III *passim*.

(and, according to some sources, the laws of logic) leave it genuinely open and uncaused which of two or more available trajectories the atom is to follow. But that belongs to another area of debate, and I would not want my immediate conclusions to be tied to so controversial an interpretation. My present concern is with the very privileged causal status which such properties as volition are given.

The point about downward causation is presented in more technical guise in a passage from the fragmentary book of Epicurus' *On nature* devoted to psychological explanation.

πολλὰ δὲ καὶ τῶνδε καὶ τῶνδ[ε φ]ύσιν ἔχοντα ἀπεργαστικά  
 [γί]νεσθαι δι' ἑαυτὰ οὐ γίνεται ἀπ[ε]ργαστικά οὐ διὰ τὴν  
 αὐτὴν αἰτία[ν] τῶν τε ἀτόμων καὶ ἑαυτῶν· οἷς δὴ καὶ  
 μάλιστα μαχόμεθα καὶ ἐπιτιμῶμεν, μ[ι]σοῦντες κατὰ τὴν  
 ἐξ ἀρχῆ[ς] παραχῶδη φύσιν ἔχοντα καθ[ά]περ ἐπὶ τῶν 5  
 πάντων ζώων. οὐθὲν γὰρ αὐτοῖς συνήργηκεν εἰς ἕνια ἔργα  
 τε καὶ μεγέθη ἔργων καὶ διαθέσεων ἢ τῶν ἀτόμων φύσις,  
 ἀλλ' αὐτὰ τὰ ἀπογεγεννημένα τὴν πᾶσα[ν ἢ] τὴν πλε[ίσ]-  
 την κέ[κτ]ητ[αι] αἰτίαν τῶνδ[ε] [τι]νων. ἐκ δ' ἐκ[ε]ίνης 10  
 [ἐν]υαί τῶν [ἀ]τόμων κινήσεις παραχῶδε[ις] κ[ινο]ῦνται,  
 οὐχὶ δὲ τὰς ἀτ[όμου]ς [...] πάντως [.....]ν[.....]πιπτον  
 [.....]ἔχοντος (*lacuna approx. 45 words*) ]σεσθαι μα-  
 χόμεν[οι πολλοῖς ἅμα τῶν ἀν[θρώπων] καὶ νουθε[τοῦν]τες,  
 ὃ τῆι τοῦ αὐτο[ῦ τρό]που κατ' ἀνάγκην α[ίτ]ία[ι] ὑπε- 15  
 ναντίον ἐστίν, οὕτως ἐπειδὴν ἀπογεννηθῆι τι λαμβάνον  
 [τι]νὰ [ἐ]τερότη[τα τῶν] ἀτό[μ]ων κατὰ τινα τρόπον  
 διαληπτικόν, οὐ τὸν ὡς ἀφ' ἐτέρου δ[ι]αστήματος, ἰσχάνει[ι]  
 τὴν ἐξ ἑαυ[τοῦ] αἰτίαν, εἶτα [ἀν]αδιδ[ωσι] εὐθύς μέχρι  
 τῶν [πρ]ώτω[ν] φύσεων καὶ [κ]αν[όνα π]ᾶσαν αὐτή[ν] 20  
 ποιεῖ. ὅθεν δὴ οἱ μὴ δυνάμενοι κατὰ τρόπον τὰ τοιαῦτα  
 διαιερεῖν χεimiάζουσιν αὐτοῦς περὶ τὴν τῶν αἰτιῶν ἀπόφασιν.

« But many naturally capable of achieving these and those results fail to achieve them, because of themselves, not because of one and the same causation of the atoms and themselves. And with these we especially do battle, and rebuke them, as well as hating them for a disposition which follows their disordered congenital nature as we do with the whole range of animals. For the nature of their atoms has contributed nothing to some of their behaviour, and degrees of behaviour

and attitudes, but it is their developments which themselves possess all or most of the causation of certain things. It is as a result of that nature that some of their atoms move with disordered motions, but it is not on the atoms that all (the responsibility should be placed for their behaviour...

... we are seen) both to do battle with and to criticise many people, which conflicts with the necessitating causation that belongs to the same way [of viewing things]; thus when a development occurs which takes on some distinctness from the atoms in a differential way — not in the way which is like viewing from a different distance — it acquires causation which proceeds from the self; then it straight away transmits it as far as the primary substances and makes the whole of it into a yardstick [?].

That is why those who cannot correctly make such distinctions confuse themselves about the adjudication of causes ».

I have discussed this text elsewhere<sup>42</sup>, but for the sake of clarity I must briefly repeat the gist of my earlier interpretation. Epicurus is apparently discussing those animals (including humans)<sup>43</sup> towards which we adopt attitudes of praise and censure. Their failures, he says, are caused by themselves — selves which are *not* identical with their constituent atoms (2-3). Some of their actions and attitudes are not caused by their atomic nature but by certain acquired states, or “developments” (ἀπογεγεννημένα, a key term in the entire book; 6-9). These special acquired states are the source of their behavioural autonomy (15-18), and immediately exert an influence on their atoms<sup>44</sup> (18-19).

Now the acquired states in question differ from the underlying atoms «κατά τινα τρόπον διαληπτικόν, and<sup>45</sup> not

<sup>42</sup> *Art. cit.* note 12 above; also LONG-SEDLEY, § 20. The passage is 34.21-2 in Arr.<sup>2</sup>, but the readings of the papyrus are my own.

<sup>43</sup> Elsewhere (34.25.21-34 Arr.<sup>2</sup>, revised text given at LONG-SEDLEY, II, text 20 j) Epicurus implies that it is all *non-wild* animals that are covered by the doctrine in question. This fits Lucretius' use of racehorses to exemplify *libera voluntas* at II 263-71 (cf. also 256, *animantibus*).

<sup>44</sup> τῶν [πρ]ώτων φύσεων. For atoms as φύσεις, cf. *ep. Hdt.* 42.

<sup>45</sup> I have taken οὐ τὸν κτλ. to contrast with τινα τρόπον δια-

in the way which is like (viewing) from a different distance » (16-17). My suggestion is that the latter “way” (perhaps also referred to in line 14?) is that in which ordinary macroscopic properties like colour, texture and flavour differ from the underlying atomic structure. At the most primitive level, a white object consists of a moving swarm of colourless atoms; but if in imagination you withdraw from it it gradually coalesces into a stationary white blob (cf. Lucretius II 308-32). Whiteness is irreducibly different from the atomic structure, but the difference is to a large extent one of scale (although atoms are in fact colourless, we are always asked to *imagine* them visually), and the macroscopic state is a mere mechanical by-product of the microscopic state. By contrast, the “developments” in question differ so radically from the underlying atoms that they actually reverse the direction of causation. It is now a matter of the autonomous mental states acting upon the atoms<sup>46</sup>. This is surely the downward causation alluded to more informally in Lucretius’ text.

I take Epicurus to be sketching some sort of theory of radically *emergent* properties<sup>47</sup>. Matter in certain complex states<sup>48</sup> can, he holds, acquire entirely new, non-physical

ληπτικόν. But it could alternatively, as Jonathan Barnes has pointed out to me, be a clarification of τινα: « a certain διαληπτικόν way (which is) not the one which ... ».

<sup>46</sup> No doubt the atomic processes in the first place cause our acquisition of autonomous states (this could indeed be implied by the causal word ἀπογεννᾶσθαι). Probably we cannot help becoming autonomous. But once autonomous, we can help what we choose to do; and that is all Epicurus’ libertarianism requires.

<sup>47</sup> Although it is hard to generalise about the modern usages of “emergence” and “downward causation”, the views I am attributing to Epicurus have much in common with those advocated by Popper. Compare e.g. K. R. POPPER, J. C. ECCLES, *The self and its brain*, Berlin 1977.

<sup>48</sup> For the complex states in question, see LUCR. II 886-901, III 258 ff.; and for the technical notion of a κρᾶμα, G. B. KERFERD, *Epicurus’ doctrine of the soul*, « Phronesis », 16 (1971) pp. 80-96.

properties, not governed by the laws of physics. The best analogy I can think of is the familiar science-fiction story of the computer which becomes so sophisticated that it suddenly gets a mind of its own. At a more or less determinate instant, it ceases to be a mechanism and becomes an autonomous agent, its behaviour no longer predictable by the laws of electronics alone. Likewise Epicurus clearly holds that the autonomous powers of which we instinctively feel aware are not merely aspects of a mechanism too sophisticated for us to understand, but are precisely what they seem to be, namely capacities to control the body's matter in ways genuinely free of antecedent mechanical causation. After all, volitions and the like have the status of accidental properties of the mind, and accidental properties, Epicurus tells us, should be held to be just what they seem to be (text on p. 310 above, lines 30-2).

These special mental states differ from the underlying atoms "in a differential way", *κατὰ τινα τρόπον διαληπτικόν*. This unfamiliar technical notion must have been explained in the earlier, lost part of the same book<sup>49</sup>. The word *τινα* suggests that there are different varieties, or degrees, of "differentiation", but I would suggest that it will always minimally include an element of emergent, non-mechanical properties. It seems to me likely, though not provable, that Epicurus has the same idea in mind at *ep. Hdt.* 69 (p. 309 above, lines 13-14), where he is explaining the level of being that belongs to inseparable properties — they have their own *ἐπιβολαί* (which I took, p. 315, to mean that they are fundamentally empirical properties), and, he adds, *διαλήψεις*. This latter could just mean "ways of being distinguished", but in view of the technical meaning of *διαληπτικὸς τρόπος* I am inclined to suspect that he has in mind the varieties or degrees of "differentiation" characteristic of emergent properties. To revert to the example of the conceptual parts

<sup>49</sup> For example, it is evidently the topic of the very fragmentary 34.4 Arr.<sup>2</sup>

of man (pp. 314-5 above), the human shape could be said to have its own ἐπιβολή — mode of empirical apprehension — while the further ingredient “animateness” (ἐμψυχία) has in addition a kind of emergent character, διάληψις.

The same expression, διάληψιν ἔχειν, also occurs at *ep. Hdt.* 51, in Epicurus' account of sense-perception. Sensations themselves are reliable; « error would not arise if we did not also get a certain further process in ourselves, which although connected possesses differentiation (τὸ δὲ διημαρτημένον οὐκ ἂν ὑπῆρχεν εἰ μὴ ἐλαμβάνομεν καὶ ἄλλην τινὰ κίνησιν ἐν ἡμῖν αὐτοῖς, συνημμένην μὲν<sup>50</sup> διάληψιν δὲ ἔχουσαν) ». Again, this last expression might mean no more than « has the power to make distinctions ». But it should be borne in mind that our “selves” (ἡμεῖς αὐτοί) are, throughout the fragments of the *On nature* book excerpted above (cf. lines 2-3, 18), emphasised as the source of autonomous action, and hence as being among (or perhaps even as being the combination of) the emergent properties discussed in the excerpt itself. Likewise here the process which leads to error is located in the “self”. I suggest that Epicurus has the following idea in mind. Sensations are totally reliable because they *mechanically* register the patterns of images arriving at the eye, and cannot embroider or interpret the data<sup>51</sup>. Error is the product of the separate mental process of judgement, which although it is causally linked (συνημμένον) to sensation, is a *non-mechanical*, emergent property of the rational mind. In other words, while sensation and rational judgement are

<sup>50</sup> I see no reason to add (τῇ φανταστικῇ ἐπιβολῇ) here, with many editors, merely because it is added in a gloss which has become incorporated into the following sentence.

<sup>51</sup> For this last point, see *DIOG. LAERT.* x 31. I have in mind the “photographic” interpretation of Epicurus' doctrine of the truth of sense-perception, well advocated by C. C. W. TAYLOR, *All perceptions are true*, in *Doubt and dogmatism*, ed. M. SCHOFIELD *et al.*, Oxford 1980, pp. 105-24.

both irreducibly different from physical states, the former is the product of upward causation, while the latter is not.

#### 4. RETROSPECT

All this is a far cry from the simple materialist Epicurus so familiar from histories of ancient thought. Those who have become used to reading Epicurus through Democritean spectacles may find these emergent properties hard to reconcile with his atomism. How could someone who holds everything to consist ultimately of inanimate atoms also espouse a dualism (albeit non-Cartesian) of the mental and the physical — a division between things that do and things that do not obey the laws of physics? As a parting shot, I shall observe that, whether or not he has a theory of emergent properties, Epicurus' position must have much in common with the doctrine I have sketched in section 3. This is because according to his metaphysical system, which we examined in section 2, he can only regard mental events and states as accidental properties, and therefore as irreducibly different from atomic states. The question « What more than atoms and void is there for them to be? » is no more apposite for mental states than it is for the colour green, which likewise is real yet irreducibly different from the underlying atomic state. The only additional question to be asked of mental states is *how* different they are from atomic states.

A difficulty I have faced throughout this discussion has been the lack of a clear target. I have spoken of the “assumption” that Epicurus is a reductionist, because I have found no actual argument for it in the modern literature. It has seemed too obvious a truth to need defence against any alternative possibility. My hope is that by presenting evidence for one alternative possibility I may at the very least persuade advocates of the more traditional view to come into the open and present their evidence.

My suspicion is that two considerations in particular are responsible for the prevailing interpretation. One<sup>52</sup> is the impression that by a very long way the most central Epicurean doctrine is atomism, and that atomistic analysis must therefore be expected to play a significant part in every branch of Epicurean philosophy, including moral psychology. Against this, it should be pointed out that atomistic analysis features prominently only in the surviving treatises on explicitly physical themes — Epicurus' letters to Herodotus and Pythocles, and Lucretius' poem. In the *Letter to Menoeceus*, in the ethical writings of Philodemus, and in the fragments of Epicurean ethics in general, it is strikingly lacking. And where materialist analyses are mentioned by Epicurus in the fragmentary text on psychology excerpted above, it is precisely in order to deny or downgrade them. Thus our tendency to choose "atomist" as the defining label for Epicurus' philosophy carries with it the risk of distortion, on the one hand reflecting the accident that physics occupies an unrepresentatively high proportion of the surviving fragments of Epicurean writings (as a glance at the fuller and presumably more representative selection of his titles at Diog. Laert. x 27-8 will confirm), and on the other hand tending itself to confirm the unjustified impression that he is a committed materialist.

The second factor is Epicurus' emphatic assertion that the mind is corporeal<sup>53</sup>, an assertion aimed in particular at establishing its inability to survive the death of the body. Simplistically interpreted, this already seems to saddle him with an identity theory of mind. But any such impression is due to no more than a misunderstanding of the scope of "mind". In modern usage, a theory of mind is a theory about the metaphysics of mental states. But if I am right, although the "mind" in Epicurus' system is the physical organ of consciousness, cor-

<sup>52</sup> This point was impressed on me in conversation by William Jordan.

<sup>53</sup> *Ep. Hdt.* 63-7; *LUCR.* III 161 ff.

responding to the brain and nervous system in more recent science, mental *states* are not treated to a parallel physicalist analysis. The mind, like the brain for us, is the material entity as whose properties states of consciousness exist; but, for Epicurus at least, it does not follow that those states of consciousness are themselves merely material states, governed by the laws of physics.

One of the most influential voices in Epicurean studies, Cyril Bailey, writing in 1928, came at one point tantalisingly close to what I take to be the correct interpretation:

« The compound is more than a mere aggregate of independent atoms: it is their union in a complex, which has a new individuality of its own in which it may acquire qualities and even powers which are not possessed by the individual component atoms. The soul or mind is a compound body of such peculiar constitution in the nature of its component atoms and their motions among themselves, that it acquires the power of sensation or consciousness »<sup>54</sup>.

Frustratingly, Bailey went on almost immediately to torpedo this insight:

« The more material thinkers of our own time are content to say that consciousness “supervenes” as an “epiphenomenon” on the movements of matter: Epicurus went the step farther and was prepared to say that consciousness, sensation, thought, and will *are* the movements of the soul-atoms. Such an idea is to most modern minds, as it was to the majority of philosophers in Epicurus’ day, unthinkable: between the one set of facts and the other there is a great gulf fixed »<sup>55</sup>.

Bailey can hardly be blamed here for failing to foresee how far from “unthinkable” the identity theory of mind would prove to be in future decades. Much more immediately wor-

<sup>54</sup> C. BAILEY, *The Greek atomists and Epicurus*, Oxford 1928, p. 435.

<sup>55</sup> *Op. cit.*, p. 436.

rying is his account of this “step farther” taken by Epicurus. Nowhere in his entire book does Bailey supply evidence or arguments for this assertion that Epicurus identified states of consciousness with the movements of soul atoms. Nevertheless, earlier<sup>56</sup> he has made it clear enough why he assumes Epicurus to hold such a view: it is because it is the only view which a materialist can consistently hold! To decide in advance that Epicurus merits the label “materialist”, and to circumscribe so narrowly the range of theories available to someone who, like Epicurus, starts out from inanimate particles of matter, is to miss a good deal of the interest that this topic holds. Did Bailey not know, for example, that C. D. Broad, in his prestigious 1923 lectures published in 1925 under the title *The mind and its place in nature*, had defended a theory of “emergent vitalism” as superior both to mechanistic materialism and to epiphenomenalism? « I know no reason whatever » Broad had written<sup>57</sup> « why new and theoretically unpredictable modes of behaviour should not appear at certain levels of complexity, or why they *must* be explicable in terms of elementary properties and laws of composition which have manifested themselves in less complex wholes ».

<sup>56</sup> *Op. cit.*, p. 394.

<sup>57</sup> C. D. BROAD, *The mind and its place in nature*, Cambridge 1925, p. 73.



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