

A.A.LONG & D.N.SEDLEY

The Hellenistic philosophers

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TRANSLATIONS OF THE
PRINCIPAL SOURCES,
WITH PHILOSOPHICAL
COMMENTARY

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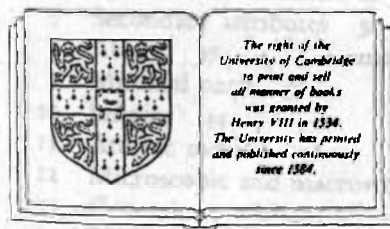
Translations of the principal sources
with philosophical commentary

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Epicurus gave quite a serious role in his epistemology, probably for its use in our memory and mental assessment of empirical data (see further on 17); this too might have been harder to sustain without some assurance that such visualization genuinely puts us in touch with external reality. Underlying both motivations there may also be a lingering Platonist assumption, so common in Greek thought, that if I succeed in thinking of x then x must objectively exist for me to think of.

Bizarre fleeting pictures in imagination and dreaming arise from the impingement of isolated freak images, produced in mid-air either spontaneously or by chance cohesion of images, e.g. of those of man and horse into that of Centaur (D 2-4; cf. A 4). But the modes of notion-formation described in F are, as the fuller Stoic exposition at 39D shows, *internal* mental processes in which we deliberately combine or otherwise modify our impressions. On this account we could deliberately create the mental notion of a Centaur by focusing on man and horse – that is, by apprehending streams of images of each – and internally synthesizing the resultant impressions. Whether the Epicureans adopted this full scheme from the Stoics or vice versa is unclear, but that Epicurus himself made important use of one part of it in his theology does seem probable: see 23F.

Further mechanical questions about sensation, e.g. the role of light in vision, and how the image manages to get into the eye, must be passed over here. Naturally the theory must in any case prove crude and unsatisfactory in certain details. But the mediation of images in vision is sufficiently comparable to the mediation of light waves in the modern account to give the related epistemological thesis a live philosophical interest. This will be pursued in the next section. For A 12, see also 18 below.

EPISTEMOLOGY

16 The truth of all impressions

A Lucretius 4.469-521

(1) Now, if someone thinks that nothing is known, one thing he doesn't know is whether *that* can be known, since he admits to knowing nothing. I shall therefore not bother to argue my case against this man who has himself stood with his own head in his footprints. (2) And anyway, even allowing that he knows this, I'll still ask him: given that he has never before seen anything true in the world, from where does he get his knowledge of what knowing and not knowing are? What created his preconception of true and false? And what proved to him that doubtful differs from certain? (3) You will find that the preconception of true has its origin in the senses, and that the senses cannot be refuted. (4) For something of greater reliability must be found, something possessing the intrinsic power to convict falsehoods with truths. Well, what should be considered to have greater reliability than the senses? (5) Will reason have the power to contradict them, if it is itself the product of false sensation? For reason is in its entirety the product of the senses, so that if the senses

are not true all reason becomes false as well. (6) Or will the ears have the power to confute the eyes, and touch to confute the ears? Or again, will this sense of touch be denounced by the mouth's taste, confuted by the nose, or convicted by the eyes? That is not, in my view, the way things are. For each has its own separate capacity and its own power, thus making it necessary that sensing what is soft, cold or hot be a separate operation from sensing the various colours of things and seeing whatever properties regularly accompany colours. Likewise the mouth's taste has a separate power, the recognition of smells is separate, and separate again that of sounds. It necessarily follows that the senses cannot convict each other. (7) Nor, again, will they be able to confute themselves, since all will always have to be considered of equal reliability. (8) Hence whatever impression the senses get at any time is true. (9) Even if reason fails to explain why things which proved square when close up seem round at a distance, it is nevertheless better, when one's reason proves inadequate, to give wrong explanations of the respective shapes, than to let the self-evident slip from one's grasp and thus to violate the primary guarantee and shake the entire foundations on which life and survival rest. (10) For not only would all reason cave in, but life itself would instantly collapse, if you lost the confidence to trust your senses, and to avoid precipices and other such hazards while aiming towards things of the opposite kind. (11) Hence you will find that the entire battalion of words which has been marshalled and armed against the senses is futile. (12) Lastly, just as in a building, if the yardstick is defective at the outset, if the set square is misleading for lack of straight edges, and if the level has the slightest wobble anywhere in it, the inevitable result is that the whole house is made wrongly – crooked, distorted, bulging backwards and forwards, misproportioned – so much so that some parts seem already determined to cave in, and do cave in, all betrayed by false initial criteria, so too you will find that any account of the world must be distorted and false if it is based upon the falsity of the senses.

B Diogenes Laertius 10.31–2

(1) All sensation, he [Epicurus] says, is irrational and does not accommodate memory. (2) For neither is it moved by itself, nor when moved by something else is it able to add or subtract anything. (3) Nor does there exist that which can refute sensations: (4) neither can like sense refute like, because of their equal validity; (5) nor unlike unlike, since they are not discriminatory of the same things; (6) nor can reason, since all reason depends on the senses; (7) nor can one individual sensation refute another, since they all command our attention. (8) And also the fact of sensory recognitions confirms the truth of sensations. (9) And our seeing and hearing are facts, just as having a pain is. (10) Hence sign-inferences about the non-evident should be made from things evident.

(11) [= 15F] (12) The figments of madmen and dreaming are true. For they cause movement, whereas the non-existent does not move anything.

C Anonymous Epicurean treatise on the senses (Herculaneum Papyrus 19/698), cols. 17, 18, 22, 23, 25, 26, fr. 21

(1) We hold that vision perceives visibles and touch tangibles, that the one is of colour, the other of body, and that the one never interferes in the other's sphere of discrimination. For if it were the case that vision perceived the size and shape of body, it would much sooner perceive body itself . . . (2) <To see shape is only to perceive the colour's> outline, and often not even that. If, then, visible shape is nothing but the external positioning of the colours, and visible size nothing but the positioning of the majority of the colours in relation to what lies outside, it is perhaps possible for that whose function is to register colours themselves to perceive the external positioning of the colours . . . (3) So it is by recourse to analogy that shape and size are spheres of discrimination common to these senses: as the shape and size of the colour are to the colour, so the shape and size of the body are to the body: and as the colour is to visual perception, so the body is to perception by touch . . . (4) Apart from the very broad and general respects discussed above we do not hold that there is, in the direct way, a common sphere of discrimination. In the indirect way, the one which exhibits such generality that it could easily be called analogy, we could say that shape is their common sphere of discrimination . . . (5) Let us then add a reminder of what peculiar characteristic each of the senses exhibits, apart from the sensory recognition of their objects of discrimination. Well, the most peculiar characteristic of vision as compared to the other senses, apart from the discrimination of colours and the things related to them, is the perception of shape at a distance, together with sensory recognition of the interval between itself and them. . . . (6) Touch, as far as its peculiar function is concerned, has [as its most peculiar characteristic] that of registering no quality at all. As far as concerns its common function of registering the qualitative states of the flesh – a concomitant property of the other senses too – it has as its most peculiar characteristic that of registering different kinds of qualities: for as well as discriminating hard and soft, it perceives both hot and cold, both within itself and adjacent to itself . . . (7) Although vision does not discriminate solidity, some people deceive themselves through thinking that it does. For they suppose that when we see rocks vision through its simple application conveys their solidity.

D Epicurus, *Key doctrines* 23

If you fight against all sensations, you will not have a standard against which to judge even those of them you say are mistaken.

E Sextus Empiricus, *Against the professors* 7.206–10 (Usener 247, part)
 [Summarizing Epicurus] (1) Some people are deceived by the difference among impressions seeming to reach us from the same sense-object, for example a visible object, such that the object appears to be of a different colour or shape, or altered in some other way. For they have supposed that, when impressions differ and conflict in this way, one of them must be true and the opposing one false. This is simple-minded, and characteristic of those who are blind to the real nature of things. (2) For it is not the whole solid body that is seen – to take the example of visible things – but the colour of the solid body. And of colour, some is right on the solid body, as in the case of things seen from close up or from a moderate distance, but some is outside the solid body and is objectively located in the space adjacent to it, as in the case of things seen from a great distance. This colour is altered in the intervening space, and takes on a peculiar shape. But the impression which it imparts corresponds to what is its own true objective state. (3) Thus just as what we actually hear is not the sound inside the beaten gong, or inside the mouth of the man shouting, but the sound which is reaching our sense, and just as no one says that the man who hears a faint sound from a distance is mishearing just because on approaching he registers it as louder, (4) so too I would not say that the vision is deceived just because from a great distance it sees the tower as small and round but from near-to as larger and square. Rather I would say that it is telling the truth. Because when the sense-object appears to it small and of that shape it really is small and of that shape, the edges of the images getting eroded as a result of their travel through the air. And when it appears big and of another shape instead, it likewise is big and of another shape instead. But the two are already different from each other: for it is left for distorted opinion to suppose that the object of impression seen from near and the one seen from far off are one and the same. (5) The peculiar function of sensation is to apprehend only that which is present to it and moves it, such as colour, not to make the distinction that the object here is a different one from the object there. (6) Hence for this reason all impressions are true. Opinions, on the other hand, are not all true but admit of some difference. Some of them are true, some false, since they are judgements which we make on the basis of our impressions, and we judge some things correctly, but some incorrectly, either by adding and appending something to our impressions or by subtracting something from them, and in general falsifying irrational sensation.

F Sextus Empiricus, *Against the professors* 8.63 (Usener 253, part)

(1) Epicurus used to say that all sensibles are true, and that every impression is the product of something existent and like the thing which

moves the sense; (2) and that those who say that some impressions are true but others false are wrong, because they cannot distinguish opinion from self-evidence. (3) At any rate, in the case of Orestes, when he seemed to see the Furies, his sensation, being moved by the images, was true, in that the images objectively existed; but his mind, in thinking that the Furies were solid bodies, held a false opinion.

G Lucretius 4.353-63

(1) When we see from far off the square towers of a city, the reason why they often seem round is that any corner is seen as blunted from a distance, or rather is not seen at all, its impact fading away and failing to complete the passage to our eyes, because during the images' travel through a large expanse of air the corner is forced to become blunt by the air's repeated buffetings. Thus, when all the corners simultaneously escape our sensation, it becomes as if the stone structures are being smoothed on a lathe. (2) They are not, however, like things genuinely round seen close-to, but seem to resemble them a little in a shadowy sort of way.

H Lucretius 4.379-86

Nor in this [shadow illusions] do we admit that the eyes are in any way deceived. For their function is to see where light and shade are. But whether or not it is the same light, and whether the shadow that was here is the same one as is passing over there, or whether rather it happens in the way we said a moment ago, this falls to the mind's reason to discern. The eyes cannot discover the nature of things. So do not trump up this charge against the eyes, for a fault which belongs to the mind.

I Plutarch, *Against Colotes* 1109C-E (Usener 250, part)

As for the famous 'matching-sizes' and 'consonances' of the passages belonging to the sense organs, and 'multiple-mixtures' of the seeds which they [the Epicureans] say are distributed through all flavours, smells and colours and move different sensations of quality in different people, do these not drive things together right into the 'no more this than that' class, on their view? For to reassure those who think that sensation is deceived because they see its users affected in opposite ways by the same things, they teach the doctrine that since all things are jumbled and mixed up together, and some things are of a nature to fit into some things, others into others, it is not the same quality that is being brought into contact and apprehended, nor does the object move everyone in the same way with all its parts; rather, all individuals encounter only the things of a size to match their own sense, and therefore are wrong to dispute about whether the thing is good or bad or white or non-white in the belief that

by confuting each other's sensations they are confirming their own. One should not resist a single sensation, for they all make contact with something, each of them taking from the multiple mixture, as from a well, whatever is fitting and appropriate to itself. And when we are making contact with parts we should make no assertions about the whole. Nor should we think that everyone is affected in the same way, since some are affected by one quality and power, some by another.

- Epicurus seems to envisage three possibilities: (a) all sensations are false; (b) some sensations are true and some are false; (c) all sensations are true. His dual task is to establish (c) by eliminating (a) and (b), and to explain precisely how (c) can be the case. For the latter purpose he makes use of his physical analysis of sensation (see 15). For the former, with which we start, he could not use this analysis without circularity, since the physical analysis itself has to assume the accuracy of sense-perception among its premises. His method, therefore, is to show (a) to be inherently self-defeating, and (b) to be conceptually indefensible.

Thesis (a), that all sensations are false, is treated as tantamount to scepticism in A. Democritus' doubts about the validity of sense-perception had been developed into a full-scale scepticism by his fourth-century followers, such as Metrodorus of Chios, and Anaxarchus (see 1D), and the reversal of this trend in atomist philosophy is one of Epicurus' principal goals (see also 7, 12, and 20; Pyrrhonian scepticism, which denies both truth and falsity to sensations, 1F 4, is perhaps not directly addressed in the surviving arguments). Scepticism is self-refuting according to A 1, whose description of the sceptic's contortions is a picturesque rendering of Epicurus' technical term for self-refutation, *perikatoitropē*, literally 'turning around and down' (cf. 20C 5). Scepticism is treated, not exactly as a self-contradictory thesis, but as one to which no one could consistently commit himself (cf. Aristotle, *Metaphysics* III.5). Secondly (A 2), even to assert his thesis coherently the sceptic inevitably employs a distinction between 'know' and 'not know', and hence between 'true' and 'false' and between 'certain' and 'doubtful', since 'true' and 'certain' must feature in any definition of 'know'. Yet the sceptic cannot admit to knowing these distinctions. Third (A 4, D), any outright dismissal of the senses must appeal to some superior criterion of truth; but there is no such criterion independent of the senses — not even reason, which is itself a product of the senses (A 5, B 6). This last claim is not explicitly defended, but probably reason was assumed to be constituted from universal conceptions, themselves the product of repeated sensory experience (see 17E for these 'preconceptions', and compare the Stoic account, 39E). Fourth — a standard anti-sceptic argument (cf. 40N) — the sceptical life is unlivable in practice (A 10-11; 69A 6).

This rejection of (a) still leaves intact the widely-held thesis (b) that some sensations are false. But that would only be a defensible position if some criterion were offered for distinguishing the true from the false impressions, and we have already seen that there is no such criterion other than the senses (A 4, D). Can sensation refute sensation?

First, if two impressions of a single sense (whether simultaneous impressions of two perceivers or successive impressions of one observer does not matter)

disagree, they are both of 'equal validity' and we have no ground for choosing between them (A 7, B 4). As it stands, this is merely a formal pose adapted from the sceptic's regular weaponry (cf. 72E). The sceptic expects the conclusion to be that neither should be accepted as true. But Epicurus, having refuted the sceptical thesis (a), secures instead the conclusion that both must be accepted as true. How this can be so we will not learn until later.

Second, it may be suggested that one sense provides the evidence to refute another (A 6, B 5; cf. 72D), e.g. that the sense of touch reveals the falsity of a visual impression of an oar in water as bent. Here the answer is that strictly the five senses are incommensurable, since each reports a different type of object. Vision discriminates colour, smell odours, hearing sounds, taste flavours. The position for touch is more complex. Strictly its peculiar object is body *per se* as distinct from any of body's qualities (C 1 and 6; the need for this restriction can be deduced from 5B 5-7, where the tangible-intangible antithesis is used to prove the exhaustiveness of the body-void dichotomy). It does, of course, discriminate qualities like hardness and heat in external objects, but this is more directly analysed (C 6) as the discrimination of changes in the qualitative state of the perceiver's own flesh. Now Hellenistic usage speaks of 'internal touch' as the 'common' sensory process by which the agent becomes aware of changes within himself, including those incidental to the operations of his individual senses, and the Epicurean view seems to be that it is only by exploiting this function that touch gains access to external qualities. Even though this technically subsumes the apprehension of qualities under a common, not a peculiar, function of touch, touch is unique in registering 'different kinds' of qualities - perhaps different from its own special object (body), or, more simply, different from each other. This is apparently held to make it legitimate, with qualification, to speak of texture and temperature as peculiar objects of touch (A 6, C 6).

The list of the senses' peculiar objects can be extended - cf. C 5. But are there no common objects, with regard to which one sense could refute another? Shape, for example? Even here the data of touch and vision are strictly incommensurable: C 1-4. Touch discriminates body, and hence, secondarily, the shape of body. Vision discriminates colour, and hence, secondarily, the shape of colour, or alternatively 'shape at a distance' (C 5). Thus the convention that shape is a common object of touch and vision amounts to no more than an analogy between two quite distinct sensory functions and their objects (C 3-4). So too in general, provided one does not expect any individual sense to exceed its actual cognitive capacity (cf. C 7, E 2), no conflict between sense-impressions will arise.

The five senses, then, cannot formally contradict each other. It follows that they cannot confirm each other's data either. Yet Epicurus is not wrong or inconsistent to allow some measure of mutual support between, say, touch and vision, as his arguments at 15A 11 and 15B seemed to require (see commentary ad loc.). For a regular pattern of correlation between tangible shape and visible shape is certainly most easily explained by a theory which makes both derivative from the object's actual shape. (It is in that light that 15A 9 must be read.)

By the elimination of (a) and (b), then, (c) is established: all sensations are true.

An alternative formulation often reported is that all 'impressions' are true. This broader term differs in including non-sensory impressions, such as those of imagination and dreaming. Such impressions do indeed come out 'true', as we shall see, although this may sometimes be only trivially so from the point of view of knowledge of the external world. Hence the narrower formula, which alone of the two is capable of providing 'criteria' of truth (see 17), is generally regarded as the more interesting one.

What does the slogan amount to? The Greek word for 'true' can also mean 'real'. But ideally the thesis should be interpreted in a stronger sense than 'all sensations are real events', if it is to provide any substantial alternative to scepticism: explanations of the type offered by B 9 and 12 will at best give us one strand of the full theory. Nor, on the other hand, can the truth referred to exactly be that appropriate to propositions, for unlike the Stoics (see 39) Epicurus is insistent that sensations are entirely irrational events, involving no interpretation at all (B 1, E 5-6, cf. H). The most promising lead is provided by F 1: the sense-impression is true because it always (1) is caused by something external, and (2) accurately depicts that external thing. The external thing will not, at least in the case of sight, be the perceived solid object itself, but the 'images' which arrive from it (see 15), in whatever state they may be in at the moment of arrival at the eye. This need not, as may at first appear, jeopardize the Epicurean view that what we actually see is normally the external object, not the images from it (see on 15). The point is best pursued by the analogy of a photograph. A photograph is properly regarded as a photograph of an external object, not of light waves, yet is 'true' not in so far as it accurately depicts the shape and colour of the object itself - it may well not do, e.g. because of perspective, and the use of a black and white film - but in so far as (to simplify somewhat) it accurately reports the pattern of light waves arriving at the lens, and thus provides *bona fide* evidence about the external object reflecting the light. Similarly a visual impression is properly regarded as an impression of an external object, not of the mediating images, yet is 'true' not because it accurately depicts the shape and colour of the object itself - it may well not do, e.g. because of the distortion undergone by the images in transit (C 3-5, E 2-4, G: 15A 4), and the insensitivity of sense-organs to some grades of particle in them (I) - but because it accurately reports the state of the images entering the eye, and thus provides *bona fide* evidence about the external object emitting the images. Again, we do not feel any conflict between a photograph of Socrates looking small and indistinct and one of Socrates looking large and clear. We expect them to differ, because their objects are different, one being of Socrates distant, the other of Socrates near-by. So too, since vision's province is to report not actual bodily shape but 'shape at a distance' (C 5), we feel no conflict between the far-off and close-up views of the same square tower (E 4, G): naturally we expect a far-off tower to look different from a near-by tower, since they constitute different objects of sensation (E 4). We can legitimately maintain this expectation whether or not our chosen physical explanation of the optical difference is the correct one: what matters is that it has some physical basis (A 9). And in general, what makes the camera unable to lie, and likewise the eye's reports true, is precisely their purely

mechanical character, their inability to embroider or interpret (**B 1, E 5-6, H**). We trust the camera so long as we believe it to be accurately reporting patterns of light waves reaching it from outside. We would distrust it if it were shown (a) to distort them, (b) to add to them, (c) to delete parts of them, or (d) to manufacture pictures by a purely internal process. Analogously, we should trust our vision so long as it is not shown (a) to distort the images while absorbing them, (b) to add to them, (c) to subtract from them, or (d) to be 'self-moved', without the mediation of images: see especially **B 2**. All error lies in the interpretation of these sense-impressions by opinion (**E 6, F, H; 15A 10-12, D 9**), and it is emphasized that opinion, although causally dependent on the irrational and mechanical process of sensation, is itself a rational and non-mechanical process (**15A 12**: it is in the 'self', and has 'differentiation' - for these difficult but important notions see **20B 5** with commentary).

The theory seems to provide a promising answer to the standard sceptical appeals to optical illusion (cf. **72E-F**). The visual impression of an oar in the water as bent is perfectly true - not as an impression of the oar's intrinsic bodily shape, on which vision is not qualified to pronounce, but, we might say, as an impression of the shape of its colour through a mixed medium of water and air. Apparently, though, the theory has to cope with cases of outright delusion too (**F**, cf. **B 12**). Can it assign truth to these without becoming entirely trivial? The example in **F 3** is Orestes' delusion that he was seeing the Furies, fearsome women with snakes for hair. Presumably he encountered some freak images of this kind, produced by the chance cohesion of separate images from women and snakes (**15D 2-3**), and in his disturbed condition failed to recognize them as mere fleeting impressions without a solid body for their source (cf. **15D 6** on similar failures of judgement in dreams). According to Epicurus, his sensation was true because the images existed, but his judgement that there were solid Furies was mistaken. In partial support of the analysis, we could compare our vision of a rainbow, which we are quite prepared to call 'true' - because it is an accurate report of the light waves reaching us. We would only call it deceptive if it were coupled with the mistaken judgement that the rainbow was a solid body. And then the fault would strictly lie in the judgement.

With the provinces of the senses as narrowly circumscribed as we have seen they are, how informative can they be about the nature of external objects? Clearly they are not an infallible guide. But, like photographs, sense-impressions do provide genuine evidence, which properly handled can lead to true judgements about external reality. We need never mistake the shape of a distant square tower, (a) because vision discriminates the distance of its objects (**C 5**) and thus warns us not to judge their shape prematurely; (b) because there is a difference between the apparent roundness of the distant square tower and the apparent roundness of the near-by round tower (**G 2**); and (c) because we can, and should, wait for a close-up view (cf. **18A 2**), in which distortion of the images is minimized and the data of vision show a regular and encouraging correlation to those of touch. Sound judgement in the assessment of sensory data is crucial. Epicurus' defence of the truth of sensations implies a vindication, against Democritus' denial, of the reality of sensible properties. For the theoretical consequences of this, see especially 7 and 20.

17 The criteria of truth**A** Diogenes Laertius 10.31

(1) Thus Epicurus, in the *Kanōn* ('Yardstick'), says that sensations, preconceptions and feelings are the criteria of truth. (2) The Epicureans add the 'focusing of thought into an impression'.

B Epicurus, *Key doctrines* 24

(1) If you are going to reject any sensation absolutely, and not distinguish opinions reliant on evidence yet awaited from what is already present through sensation, through feelings, and through every focusing of thought into an impression, you will confound all your other sensations with empty opinion and consequently reject the criterion in its entirety. (2) And if you are going to treat as established both all the evidence yet awaited in your conjectural conceptions, and that which has failed to <earn > attestation, you will not exclude falsehood, so that you will have removed all debate and all discrimination between correct and incorrect.

C Epicurus, *Letter to Herodotus* 37-8

(1) First, then, Herodotus, we must grasp the things which underlie words, so that we may have them as a reference point against which to judge matters of opinion, inquiry and puzzlement, and not have everything indiscriminated for ourselves as we attempt infinite chains of proofs, or have words which are empty. For the primary concept corresponding to each word must be seen and need no additional proof, if we are going to have a reference point for matters of inquiry, puzzlement and opinion. (2) Second, we should observe everything in the light of our sensations, and in general in the light of our present focusings whether of thought or of any of our discriminatory faculties, and likewise also in the light of the feelings which exist in us, in order to have a basis for sign-inferences about evidence yet awaited and about the non-evident.

D Epicurus, *Letter to Herodotus* 82

So we should pay heed to those feelings which are present in us, and to our sensations – universal sensations for universal matters, particular ones for particular matters – and to all self-evidence which is present by virtue of each of the discriminatory faculties.

E Diogenes Laertius 10.33

(1) Preconception, they [the Epicureans] say, is as it were a perception, or correct opinion, or conception, or universal 'stored notion' (i.e.

memory), of that which has frequently become evident externally: e.g. 'Such and such a kind of thing is a man.' (2) For as soon as the word 'man' is uttered, immediately its delineation also comes to mind by means of preconception, since the senses give the lead. (3) Thus what primarily underlies each name is something self-evident. (4) And what we inquire about we would not have inquired about if we had not had prior knowledge of it. For example: 'Is what's standing over there a horse or a cow?' For one must at some time have come to know the form of a horse and that of a cow by means of preconception. (5) Nor would we have named something if we had not previously learnt its delineation by means of preconception. (6) Thus preconceptions are self-evident. (7) And opinion depends on something prior and self-evident, which is our point of reference when we say, e.g., 'How do we know if this is a man?'

- Epicurus' term for epistemology is *Canonic*, and his handbook on the subject was called the *Kanōn* (A 1). A *kanōn* was a yardstick or ruler, used for determining straightness or for measurement, and the term throws light on another used almost interchangeably with it in Hellenistic epistemology, 'criterion' (A 1, B 1; 15A 13, 16A; the Greek word *kritērion* is also used by Epicurus at C 2, D and 15A 11 for a cognitive 'discriminatory faculty', but this is a slightly different sense). In Epicurus' wake it becomes virtually obligatory for every doctrinaire Hellenistic philosopher to name one or more 'criteria of truth' (cf. 40) – more literally 'means of discrimination', and hence yardsticks or ultimate arbiters, of truth, themselves not subject to any higher authority; cf. 16A 4, 'something possessing the intrinsic power to convict falsehoods with truths'. Thus it is often said of such a criterion that it is 'self-evident' (cf. D, E 3, 7; 15A 13). An opinion is judged true or false by measuring it up against one or more criteria.

Sensations are the first of Epicurus' three criteria (A 1, B 1, D; cf. 7B 5; 14A 1; 15A 9). D divides them into 'universal' and 'particular'. Universal sensations will be, not universal judgements based on sensation, since opinion being fallible (see 16) is ineligible as a criterion, but collections of similar sensations filed away in the memory as firm criteria for inductive judgements. Thus the 'universal sensation' which in 5B 2 provides the evidence that bodies exist is identical with the sensation which in 5A 2 bears witness 'universally', literally 'in all cases', to the existence of body. Precisely how empirical and scientific generalizations are tested against this criterion of universal sensation will be considered in 18.

The testing of particular opinions against particular sensations is plausibly illustrated by the example used in 18A 2. You provisionally judge a distant figure to be Plato. The judgement will include the expectation that seen close up he will be of such and such an appearance. When the figure is close enough, that expectation is tested against the features of the new impression and the judgement accepted or rejected accordingly. Error, if it occurs, will lie in the opinion which you form, not in the sense-impression.

Preconception (*prolēpsis*), a key term in Hellenistic epistemology (cf. 40)

whose introduction is reliably attributed to Epicurus, provides the second criterion. **E** is the principal evidence on it, but it is generally recognized to be the topic of **C I** too (cf. especially **E 3**); the avoidance of the term itself in **C** will merely reflect Epicurus' concern in the opening moves of his physical exposition to appeal to the most general possible considerations, leaving the more heavily theory-laden terms to emerge in due course. A preconception is a generic notion of any type of object of experience, the concept naturally evoked by the name of that thing, as explained in **E 1-2**. Normally it will be synthesized out of repeated experiences of something external (**E 1**). Examples are body (**12E 2**); man (**13F 4**); utility (**13E 4**, **19B 4**, and cf. **22B 2**); truth (**16A 2-3**); and all properties of bodies (**7B 6**). It may, however, include data of introspection – our own responsibility, or agency (**20C 4, 8**), and the desirability of pleasure (**21A 4**) – and perhaps even, in a secondary way, empirically derived conceptions of the microscopic (**11B 7**).

The preconception of god is hard to allocate between these categories (see **23B-E**, and commentary). Theology nevertheless provides a useful illustration of the function of preconception as a criterion in Hellenistic debate. Theories about the gods are expected to measure up to our preconception of god. Stoics and others will claim that we preconceive god as provident (**54K**). But the Epicureans deny that this is a real preconception (**23B**) on the grounds (a) that it conflicts with a more secure or fundamental preconception, that of god as blessed (cf. **23C**); and (b) that the false quasi-preconception can be explained away as the product of faulty inference (**23A 3-6**).

While its empirical or natural origin must provide the ultimate justification for using preconception as a criterion of truth, the more general ground offered in **C I** is its indispensability as a starting-point in philosophy. Unless something is taken as given, our inquiries will be drawn into a vicious regress of proofs. The danger of such a regress is an evident and familiar one (cf. Aristotle, *Posterior Analytics* 1.3), but why are preconceptions, in their guise of the meanings underlying words, singled out as the criterion capable of halting it? It is as a matter of fact, from Epicurus on, a philosophical commonplace that preconceptions are what make inquiry possible (cf. **40T**), and to see why we must compare **E 4** with Plato's conception of dialectic as developed in the *Meno* and *Phaedo*. Starting from *Meno's* celebrated paradox that you could not inquire about something unless you *already* knew what it was, Plato evolved the view that when we inquire into something we do in a way already know what it is, thanks to our soul's half-forgotten pre-natal experience – more specifically (in the *Phaedo*) thanks to its pre-natal acquaintance with the transcendent Form of the thing concerned. **E 4** strongly suggests that Epicurus saw his 'preconception' as an alternative response to *Meno's* paradox, providing the sort of prior acquaintance (hence 'pre-') required as a basis of inquiry, but without such unacceptable by-products as separated universals and pre-natal existence (for another way in which preconceptions serve to replace Platonic Forms, cf. **13F 4**). In consequence, its importance as a criterion lies especially in its guarantee that we know what the things we are discussing actually are. Our conjectures about them can be directly tested against that knowledge, and we

avoid endless and inconclusive arguments about mere 'empty words' (cf. also 19I-J; 20C 8).

③ Feelings are the third criterion of truth (A 1, B 1, C 2, D). The Greek word *pathos* varies between objective 'affection' – being acted upon or affected – and subjective 'feeling'. For example the compound *sympatheia*, translated 'co-affection' at 14A 1, 4 (cf. 14B 3), and 15A 5, 8, and 'interaction' in contexts like 45C, tends to the former use but with some hint of the latter. In the present context 'feeling' seems the more appropriate translation. The primary 'feelings' are reported to be pleasure and pain (preamble to 16E in vol. 2; cf. 7C 5), which constitute the sole Epicurean ethical criterion, the standard for all choice and avoidance (21B 2; Diogenes Laertius 10.34; Cicero, *On ends* 1.22–3). But although later Scepticism makes a sharp distinction between criteria of truth, which it rejects, and criteria for action, which it in a sense accepts, it is doubtful whether Epicurus separated the two. He would, at least, take it that beliefs about the moral value of things can have as much objective truth as beliefs about their physical nature (cf. 7D; 16I; p. 147), and that feelings are the arbiters of that truth. It is in any case clear that feelings play a critical role in physics too (C 2 and D come from Epicurus' physical treatise), namely as our source of introspective data for ascertaining the nature of the soul (14A 1–2, cf. 14B). It may well be that all such feelings would be subsumed under the headings 'pleasure' and 'pain' (cf. 7C 5).

↳ According to A 2 Epicurus' followers added a fourth criterion to the list, the focusing of thought into an impression. Epicurus treats any deliberate mental act as 'focusing' (*epibole*), but the species of focusing picked out here is that which involves a sense-like mental impression – that is, the process explained at 15D 7–8 of imagining something external by apprehending its 'image'. That Epicurus himself assigned cognitive importance to this process is clear from B 1, C 2, and D (where 'faculties' includes thought, cf. 15A 11), and we know too that such impressions technically come out 'true' on his theory (see 16). Indeed, the need to *think* accurately about empirical data is obvious enough, especially in 'universal sensation', but perhaps also in determining what is and what is not in principle imaginable, a standard to which Epicurus often appeals (cf. 5A 4; 7B 5; 10C 1; 14A 6–7, G).

If the Epicureans thought that such 'focusing' was one of Epicurus' criteria of truth, they had some evidence in his writings to encourage the belief. But that Epicurus himself refrained from so calling it is not surprising: it would have been odd to suggest that we can test a theory about external objects *merely* by closing our eyes and imagining them. The imaginative process must be strictly ancillary to the criterion of direct sensory acquaintance. (For a possible exception in the special case of the gods, see 23, especially pp. 145–7.)

18 Scientific methodology

A Sextus Empiricus, *Against the professors* 211–16 (Usener 247, part ^{VII})

(1) Of opinions, then, according to Epicurus, some are true, some false

True are those attested and those uncontested by self-evidence; false are those contested and those unattested by self-evidence. (2) Attestation is perception through a self-evident impression of the fact that the object of opinion is such as it was believed to be. For example, if Plato is approaching from far off, I form the conjectural opinion, owing to the distance, that it is Plato. But when he has come close, there is further testimony that he is Plato, now that the gap is reduced, and it is attested by the self-evidence itself. (3) Non-contestation is for that which is evident to follow from the non-evident thing posited and believed. For example, Epicurus, in saying that there is void, which is non-evident, confirms this through the self-evident fact of motion. For if void does not exist, there ought not to be motion either, since the moving body would lack a place to pass into as a result of everything's being full and solid. Therefore the non-evident thing believed is uncontested by that which is evident, since there is motion. (4) Contestation, on the other hand, is something which conflicts with non-contestation. For it is the elimination of that which is evident by the positing of the non-evident thing. For example, the Stoic says that void does not exist, judging something non-evident; but once this is posited about it, that which is evident, namely motion, ought to be co-eliminated with it. For if void does not exist, necessarily motion does not occur either, according to the method already demonstrated. (5) Likewise, too, non-attestation is opposed to attestation, being confrontation through self-evidence of the fact that the object of opinion is not such as it was believed to be. For example, if someone is approaching from far off, we conjecture, owing to the distance, that he is Plato. But when the gap is reduced, we recognize through self-evidence that it is not Plato. That is what non-attestation is like: the thing believed was not attested by the evident. (6) Hence attestation and non-contestation are the criterion of something's being true, while non-attestation and contestation are the criterion of its being false. And self-evidence is the foundation and basis of everything.

B Diogenes Laertius 10.34

(1) Opinion they also call 'supposition', and they say that it is true and false. If it is attested or uncontested, it is true; if it is unattested or contested, it comes out false. (2) Hence their introduction of 'that which is awaited' – for example, waiting and getting near the tower and learning how it appears from near by.

C Epicurus, *Letter to Pythocles* 85–8

(1) First, we should not think that any other end is served by knowledge of celestial events, whether they be discussed in a context or in isolation, than freedom from disturbance and firm confidence, just as in the other

areas of discourse. (2) And neither should we force through what is impossible, nor should we in all areas keep our study similar either to discourses on the conduct of life or to those belonging to the solution of the other problems of physics, for example that the totality of things is body and intangible substance, or that there are atomic elements, and all the theses of this kind which are uniquely consistent with things evident. In the case of celestial events this is not the case: both the causes of their coming to be and the accounts of their essence are multiple. (3) For physics should not be studied by means of empty judgements and arbitrary fiat, but in the way that things evident require. What our life needs is not private theorizing and empty opinion, but an untroubled existence. (4) Now in respect of all things which have a multiplicity of explanations consistent with things evident, complete freedom from trepidation results when someone in the proper way lets stand whatever is plausibly suggested about them. But when someone allows one explanation while rejecting another equally consistent with what is evident, he is clearly abandoning natural philosophy altogether and descending into myth. (5) Signs relating to events in the celestial region are provided by certain of the things familiar and evident – things whose mode of existence is open to view – and not by things evident in the celestial region. For these latter are capable of coming to be in multiple ways. (6) We must, nevertheless, observe our impression of each one; and we must distinguish the events which are connected with it, events whose happening in multiple ways is uncontested by familiar events.

D Lucretius 5.509–33

(1) Let us now sing what are the causes of the heavenly bodies' motions. (2) First, if the great sphere of the sky rotates, we must say that the air exerts pressure on its pole at each end, and holds it imprisoned from both sides; and that then other air flows above and travels in the direction in which the shining stars of the fixed heavens rotate; (3) or else other air flows below, and pushes the sphere up in the opposite direction, just as we see rivers turn water-wheels and their scoops. (4) Another possibility is that the sky as a whole is stationary while the bright heavenly bodies move: (5) whether because fast aether currents, trapped within the world, go round seeking an outlet and spin fires all through the nocturnal zone of the sky; (6) or because air flowing from somewhere else, outside the world, drives the fires to rotate; (7) or because they themselves have the power to edge forward in the direction in which their food entices them as they travel, pasturing their fiery bodies all through the sky. (8) For it is hard to state with certainty which of these is the case in our world. But what I am expounding is what is possible, and happens in the various worlds variously formed throughout the universe, and my procedure.

to set out a plurality of causes which are able to be those of the motions of the heavenly bodies throughout the universe. Of them, one must also be the cause which gives the heavenly bodies their power of motion in our world. But it is not the job of one who proceeds with caution to lay down which of them it is.

E Lucretius 6.703-11

There are also a number of things of which it is not enough to name one cause, but rather many causes, one of which will however be the actual one — just as, if you were yourself to see at a distance the dead body of a man, it would be appropriate to list all the causes of death, so as to include the specific cause of his death. For you would not be able to establish that he had died by the sword, from cold, from disease, or by poison; yet we know that it was *something* of this kind that happened to him. And likewise in many other matters we are in a position to say the same.

F Philodemus, *On signs* 11.32-12.31

(1) For granted that 'If the first, then the second' is true whenever 'If not the second, not the first either' is true, it does not therefore follow that only the Elimination Method is cogent. (2) For 'If not the second, not the first either' comes out true *sometimes* in as much as, when the second is hypothetically eliminated, by its very elimination the first is eliminated too — (3) as in 'If there is motion, there is void', since, when void is hypothetically eliminated, by its mere elimination motion will be eliminated too, so that such a case fits the Elimination type — (4) but sometimes not in this way but because of the very inconceivability of the first being, or being of this kind, but the second not being, or not being of this kind: (5) for instance, 'If Plato is a man, Socrates is a man too.' For given that this is true, 'If Socrates is not a man, Plato is not a man either' comes out true as well, not because by the elimination of Socrates Plato is co-eliminated, but because it is impossible to conceive of Socrates not being a man but Plato being a man. And that belongs to the Similarity Method.

G Philodemus, *On signs* 34.29-36.17

(1) Those who attack sign-inference by similarity do not notice the difference between the aforementioned [senses of 'in so far as'], and how we establish the 'in so far as' premise, such as, for instance, that man in so far as he is man is mortal. . . . (2) For we establish the necessary connexion of this with that from the very fact that it has been an observed concomitant of all the instances which we have encountered, especially as we have met a variety of animals belonging to the same type which while differing from each other in all other respects all share such-and-such

common characteristics. (3) Thus we say that man, in so far as and in that he is man, is mortal, because we have encountered a wide variety of men without ever finding any variation in this kind of accidental attribute, or anything that draws us towards the opposite view. (4) So this is the method on which the establishment of the premise rests, both for this issue and for the others in which we apply the 'in so far as' and 'in that' construction – the peculiar connexion being indicated by the fact that the one thing is the inseparable and necessary concomitant of the other. (5) The same is not true in the case of what is established merely by the elimination of a sign. But even in these cases, it is the fact that all the instances which we have encountered have this as their concomitant that does the job of confirmation. For it is from the fact that all familiar moving objects, while having other differences, have it in common that their motion is through empty spaces, that we conclude the same to be without exception true also in things non-evident. And our reason for contending that if there is not, or has not been, fire, smoke should be eliminated, is that smoke has been seen in all cases without exception to be a secretion from fire. (6) Another error which they make is in not noticing our procedure of establishing that no obstacle arises through things evident. For the existence of chance and of that which depends on us is not sufficient ground for accepting the minimal swerves of atoms: it is necessary to show in addition that nothing else self-evident conflicts with the thesis.

- Sensory experience is a guaranteed, or 'self-evident', standard against which the truth or falsity of an opinion is to be judged (A 1; cf. 17). More explicitly, opinions about facts which fall potentially within our direct experience are said to be verified if 'attested' by things evident, falsified if 'unattested'; correspondingly, scientific theories about the non-evident are verified if 'uncontested' by things evident, falsified if 'contested'. These distinctions are nowhere stated with full precision, but seem to underlie A (cf. B; 15A 12), and correspond to actual Epicurean practice (cf. 12A 1; 15A 1–5; 22B 2).

The example of attestation in A 2 looks straightforward: see further 17, commentary. In A 5, on the other hand, one may wonder why direct observation that an opinion is false would receive the weak characterization of 'non-attestation'. Why is the opposite of attestation not positive contestation? A probable answer is that attestation and non-attestation were conceived primarily as scientific methods, and hence as means of testing empirical generalizations, e.g., as in 22B, that such and such a type of behaviour is socially beneficial. In such cases non-attestation – failure to discover confirmatory instances – will normally be a sufficient ground for rejecting the hypothesis, and perhaps the only possible ground.

A may consequently be accused of a certain superficiality in its choice of example. It is generally regarded as our prime text on Epicurean methodology, but its credentials are in fact rather suspect. Sextus' source for it was almost

certainly a first-century B.C. history of epistemology by Antiochus of Ascalon, some of whose other reports of earlier philosophers were alarmingly unhistorical. Indeed, we will argue at the end of this section that his account of non-contestation and contestation in **A 3-4** rests on a gross error. In the mean time his evidence will be treated with caution.

A 3 takes it that an opinion about the non-evident is 'uncontested' by something evident only when it follows from it. In the example chosen the evident thing is the fact of motion, while the non-evident thing said to follow from it is its *explanans*, the existence of void. But while Epicurus certainly took the latter to follow from the former (**5A 3**; **6A**), there is little reason to think that he regarded this as an example of mere 'non-contestation' by phenomena. That expression (*ouk antimarturēsis*, literally 'no counter-evidence') plainly implies nothing stronger than consistency with phenomena, and when Epicurus appeals to the principle the phenomena invoked are not, as in **A 3**, the *explanandum* itself, but analogous phenomena within our direct experience. This is repeatedly emphasized in his *Letter to Pythocles* on celestial events (cf. **C 5-6**): an explanation of a celestial phenomenon is acceptable if and only if comparable causal processes are observed within our direct experience (cf. **D 3**). Similarly, the immense fineness attributed to the 'images' which account for vision and imagination is justified as 'uncontested by anything evident' at **15A 3**, and the fuller arguments supplied by Lucretius (4. 110-28) are of just the kind that this phraseology leads us to expect: for example, the analogy of barely visible insects, whose individual organs must be far below the threshold of perception. Clearly what provision of such analogies establishes primarily is that the scientific theory in question is possible. Yet somehow this test of non-contestation is supposed to establish truth as well: **A 1**, **B 1**; **15A 12**.

This surprising claim is substantiated in three ways. Note, first, that the hypothesis to be tested is selected not at random but for its explanatory value in a specific scientific inquiry: e.g. **G 6** (comparing **11H 4**; **20**); **12E 2-3**; **15A 5**. It may often turn out in such a context that of several possible explanatory hypotheses only one survives the test of consistency with phenomena. And fortunately the basic tenets of Epicurean atomism are held to fall into this class: **C 2**. Such theories, then, should be unequivocally accepted as true.

It may, secondly, be the case that some thesis proves for theoretical reasons to be the only one capable of being entertained in the first place. Even so, to be accepted as true it still requires non-contestation in the form of an analogy which can show it to be possible and perhaps provide a model for our understanding of it. Probable examples can be found at **9A 9**; **11B 7**; **12D 4**, **E 4**.

In a third kind of case, notably the explanation of celestial phenomena (but not solely: cf. **15A 4-5**), several alternative theses may prove to be both equally useful and equally consistent with phenomena within our direct experience: **C**. When this happens, it is proper to accept them *all* - and not just as possible, but also, in a way, as true. For in an infinite universe nothing intrinsically possible could fail to be realized somewhere: **D 8**. Sometimes, indeed, more than one may be operating concurrently in our own world. More often only one will obtain here, others in other worlds; but even then the only proper scientific procedure is to adopt all the explanations, without attempting an arbitrary

choice between them: C 4, D 8, E. Thus the power of non-contestation to establish 'truth' is technically salvaged even in cases such as these.

Non-contestation, then, emerges as a principle of verification best understood within the context of Epicurean science. It characteristically exploits the analogy of directly observed facts and processes to confirm hypotheses formed in the course of constructing a comprehensive scientific theory. But whether all of the many analogies employed in Epicurean physical argument belong under one or other of the three types of non-contestation is debatable.

Later Epicureans under the leadership of Zeno of Sidon (c. 100 B.C.) continued discussion of these issues in opposition to recent Stoic theories of 'signs' (cf. 42G-H), and one of them, Philodemus, wrote a work *On signs* whose surviving fragments preserve some of the exchanges. While accurately reporting the essentially confirmatory role of non-contestation (see G 6), these Epicureans for their own part had shifted their interest to analysis of the precise ways in which a hidden entity or fact can 'follow', or be inferable, from its phenomenal 'sign'. The Stoics of their day held that the only valid connexion of this kind was one of strict logical entailment (the regular Stoic term is 'cohesion' - see 35B). Such connexions are certified by the Elimination Method (cf. F 2-3): q follows from p if and only if when q is 'eliminated' p is thereby 'co-eliminated'. The Epicureans also accept this as a valid inferential principle, but add a second, the Similarity Method. The difference is as follows. The Similarity Method grounds inferences of the form 'If (or 'since') x is F , y is F ', where y 's similarity to x is held to make it 'inconceivable' that y should lack an essential predicate of x (cf. F 4-5). Such similarity may be direct, as in the inductive inference to the mortality of all men from that of men within our experience (cf. G 3); or analogical, as in certain basic Epicurean derivations of properties of atoms from those of sensible bodies. The Elimination Method is reserved by the Epicureans for cases where no such similarity obtains, notably for inferences from a phenomenal explanandum to its hidden explanans, such as the argument from motion to void (cf. F 2-3, G 5, where the parallel 'smoke' example illustrates their tendency to conflate logical with empirical connexion). But although the latter type of inference formally goes through by the Elimination Method, they insist that this does not constitute in itself a true 'sign-inference', probably because it is incapable by itself of revealing anything. All the hard work of 'confirmation' is done in a logically prior stage by the Similarity Method, which infers from the exceptionless dependence of motion within our experience on empty space that motion is altogether impossible without empty space (G 5); the Elimination Method is then called in merely to make the formal and relatively trivial step which this sanctions from atomic motion, at the non-evident level, to truly empty space, i.e. void, at the non-evident level. The Stoics overvalue the deductive Elimination Method, it is alleged, because they fail to appreciate its complete dependence on empirical premises inductively established by the Similarity Method.

We are now in a position to diagnose the error of Antiochus, the probable source of A 3's exegesis of Epicurean 'non-contestation'. Seeking illustration of the method, he has dipped into a contemporary Epicurean handbook, probably the *On signs* itself. Not finding the precise term in such relevant passages as G 6,

he has mistakenly associated it instead with a current Epicurean preoccupation, the Elimination Method. Read out of context, passages like F 2-3 will yield just the illustration given in A 3, that the existence of void follows from that of motion, because (as A 4 explains) if void is 'eliminated' motion is thereby 'co-eliminated'. But the assumed equivalence of this principle to non-contestation, the implication that it is itself sufficient to 'confirm' the existence of void, and the anachronistic attribution of its terminology to Epicurus himself, all reveal the inadequacy of his report.

19 Language

A Epicurus, *Letter to Herodotus* 75-6

(1) We must take it that even nature was educated and constrained in many different ways by actual states of affairs, and that its lessons were later made more accurate, and augmented with new discoveries by reason - faster among some people, slower among others, and in some ages and eras, owing to <individual needs, by greater leaps>, in others by smaller leaps. (2) Thus names too did not originally come into being by coining, but men's own natures underwent feelings and received impressions which varied peculiarly from tribe to tribe, and each of the individual feelings and impressions caused them to exhale breath peculiarly, according also to the racial differences from place to place. (3) Later, particular coinings were made by consensus within the individual races, so as to make the designations less ambiguous and more concisely expressed. (4) Also, the men who shared knowledge introduced certain unseen entities, and brought words for them into usage. (5) <Hence some> men gave utterance under compulsion, and others chose words rationally, and it is thus, as far as the principal cause is concerned, that they achieved self-expression.

B Lucretius 5.1028-90 (following 22K)

(1) It was nature that compelled the utterance of the various noises of the tongue, and usefulness that forged them into the names of things. (2) It was rather in the way that children's inarticulacy itself seems to impel them to use gestures, when it causes them to point out with a finger what things are present. For everyone can feel the extent to which he can use his powers. The calf angrily butts and charges with his incipient horns before they have even protruded from his forehead. Panther and lion cubs already fight with claws, paws and biting at an age when their teeth and claws have barely appeared. Also, we see all birds putting trust in their wings and seeking the fluttering aid of their feathers. (3) So to think that someone in those days assigned names to things, and that that is how men learnt their first words, is crazy. Why should he have been able to