FOREWORD

Two senses of 'empiricism' may be distinguished. The term may be used to refer to a *method*: the empirical method of basing theorising on, and testing it by, observation and experiment. Alternatively it may be used to refer to a philosophical *theory*, held in one form or another by, amongst others, John Locke, David Hume, the two Mills, and, more recently, Russell and Ayer. The theory is about knowledge and meaning. It has roots in dualistic theories of perception and communication, and fruits in epistemological problems about how we can possibly know things it does not ordinarily occur to us to question, such as that tables and chairs continue to exist when unperceived, and that other people have minds. The papers in this collection are about empiricism in both senses, and about how they are related. Some of them touch on that most exciting question (exciting to an empiricist *manqué*, that is): whether empiricism, as a theory, is itself empirical. Others, towards the end of the volume, challenge a widely accepted view: the view that science, whatever else it should be, should at least be empirical. The final contribution is an original defence of empiricism – the method, not the theory – in ethics.

To provide a point of reference for my comments on some of the individual lectures I shall say a little about the philosophical theory, in the form it takes in Locke's *Essay*.

Empiricism as a theory has, as I said, roots in dualist theories of perception and communication. The theory of perception is one according to which a person's mind, as well as his body, is acted on when he perceives something. And just as there is something, the 'stimulation' of the sense-organ and nervous system, which is the result of his *body* being acted on, so there is something else, sometimes called a 'sense-impression'

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or 'sensation', which is the result of his *mind* being acted on.[1] It is on these sense-impressions – and on the inner awareness of the operations of the mind (remembering, discerning, reasoning, etc.), the ideas of which could not be had from sense-perception – that all our knowledge is founded.

The theory of communication is that to be found in Hobbes' *Leviathan* and in numerous other writings up to the present day (including George Steiner's *After Babel*), the theory that language is needed only because one person cannot get at another person's thoughts directly. I translate my thoughts into sentences, which you hear or see, and then translate back into thoughts.

To this 'translation' theory of communication has to be added the notion that thinking is a matter of being employed about things called 'ideas': ideas are the objects of the understanding in thinking. In the everyday use of the term 'idea' this may seem a fairly innocuous thing to say. It may seem to be not more than a rather pompous way of saying what is implicit in our use of expressions like 'I've got a good idea: let's go and call on Aunt May', 'He had an idea she was hiding something', and 'The same idea had obviously occurred to both of them'. But Locke's use of the term 'idea' is not the everyday one. It is a philosophically highly-charged one. For with the one word 'idea' he identifies the things we are said to be employed about when we think, with the things supposedly passively received by the mind in perception, otherwise called 'sense-impressions'. According to Locke, sense-impressions are ideas are the things we are employed about in thinking. And translating our thoughts (Locke: 'mental propositions') into sentences ('verbal pro- positions') is a matter of 'signifying' ideas with words.

There has to be more to it than this, of course. Otherwise a sentence would be at best a string of proper names.[2] There must be general words, and hence, if words have meaning by standing for ideas, general ideas. But how can there be general ideas if ideas are impressions on, or in, the mind? Surely impressions come in the category of particulars, not universals.

To meet the difficulty Locke invokes the doctrine – or, rather, doctrines – of abstraction. There are two doctrines, one of which is invoked for words for sensible qualities, like 'white', the other for words like 'man'. The doctrine of abstraction for words like 'white' is as follows. In external objects such qualities as colour and shape are 'united and blended', but the ideas they produce in the mind enter by the senses

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1   The term 'sense-impression' – or 'impression', for short – has its origin in the assimilation of the passivity of the mind in perception to that of wax in receiving an impression from a seal. See Descartes, *Rules for the Direction of the Mind*, Rule 12.

2   I say 'at best' because of the problem, with sense-impressions, of satisfying the conditions for the use of a proper name, e.g. that the thing named should be re-identifiable.

'simple and unmixed'. For example, if I am looking at something white and round, like a snowball, the idea of white and the idea of round enter the mind separately. There are two separate ideas, one of white and the other of round. And I can consider them as such. This act of considering an idea as separate from other concomitant ideas is called 'abstraction'. In addition to being able to abstract ideas (i.e. consider them in their simple and unmixed state), I can notice that other ideas conform to, or agree with, the idea so abstracted (now called an 'abstract idea'). In virtue of this ability to notice agreement of ideas I can lay up the abstract idea in my memory to serve as a pattern or standard for all ideas of that sort. I can use it, in my thoughts, as a representative of all such ideas. So used, it may be called a 'general idea', though it is still a particular; its generality consists in the use to which it is put. The general word 'white' signifies the general idea of white. The use of the word by someone else excites, by a process of association of the word with the idea, the appropriate idea in my mind.

The doctrine of abstraction for words like 'man' is different. It has to be, since 'man' is not a word for a sensible quality, and it would be too implausible to hold that the idea of man enters the mind simple and unmixed. 'Abstraction' now comes to mean something more than a mere act of considering an idea that is already separate from other ideas. It becomes the act of separating out, from a number of complex ideas, what they 'have in common'. Abstract ideas, in this sense, are 'the workmanship of the understanding'. I have a number of complex ideas, of Peter and James, Mary and Jane, observe what they have in common, and accordingly frame an abstract idea in which what is peculiar to each is left out and what is common to them all is retained.

Locke recognised some of the difficulties in his account. He wrote, for instance, of 'the pains and skill required to form the general idea of a triangle' which 'must be neither oblique nor rectangle, neither equilateral, equicrural, nor scalenon; but all and none of these at once'. He even said that such an idea is, in effect, 'something imperfect, that cannot exist; an idea wherein some parts of several different and inconsistent ideas are put together'. I suppose he meant that it could exist *only* as an idea, not as a real thing; but even as an idea its existence may be questioned. Or it might be better to say that what may be questioned is that Locke can mean by the term 'idea' in talk of 'the general idea of a triangle' what he means by it when he identifies an idea with a sense-impression. Without continuity of meaning here, the pass of empiricism is sold. As Hume was to put it, an idea must be shown to be derived from an impression if it is not to be dismissed as fictitious.

A second problem Locke recognised was that arising from the 'privacy' of sense-impressions. If ideas are impressions how can two people be said to have the same idea? And so, how can two people mean the same by

what they say? His solution was that in the case of colour words it would not matter if they did not. If the idea that a violet produced in one man's mind were the same as a marigold produced in another man's, and *vice versa*, it would not affect the ability of either of the men to distinguish between violets and marigolds. But he did not extend this argument to cover more complex qualities; and he remarked, more than once, that if a word did not excite in the hearer the same idea as it stood for in the speaker the hearer would not have understood the speaker, and the chief end of language in communication would not have been served.

A third problem concerns perception. When I see something I see it as having certain qualities or features, which it could have in common with other things. I see it as having a certain colour, a certain shape, and so on. That is, I see it as something to which *some* description, vague or precise, is applicable on the basis of my perception of it. In other, more philosophical, words, perception is of the universal in the particular; it is an epistemic concept. On Locke's account, however, perception is of the particular alone, for that is the declared status of sense-impressions. So there is a problem, for Locke, of explaining away what, on his account, must be an illusion, 'the illusion of the universal in perception'. I do not think that Locke ever recognised this problem. The nearest he came to recognising it was in recognising another problem about perception. If we set before our eyes a round globe we seem to *see* it as convex (that is, as having a curvature that bulges towards us). But, Locke says, 'it is certain that the idea thereby imprinted in our minds is of a flat circle'.[1] Strictly, the convexity is not something we *see*, it is something we *think*. But we perform the act of judgement 'so constantly and so quick, that we take that for the perception of our sensation which is an idea formed by our judgement'.[2] Had Locke recognised the problem of explaining 'the illusion of the universal in perception' then I suppose he would have tried to solve it on similar lines.

Part of Locke's theory is about the source of our ideas of what he calls the 'operations' of minds, such as remembering. The source, he says, is one which 'every man has wholly in himself: and though it be not sense, as having nothing to do with external objects, yet it is very like it, and might properly enough be called internal sense'.[3] In other words, I know what remembering is by introspecting an operation of remembering in which I am engaged. Norman Malcolm, Professor of Philosophy at Cornell University, is concerned, in his contribution to this volume, with the controversy between those who hold that memory is a direct awareness of

[1] *Essay*, bk II, ch. 9, section 8.
[2] Ibid., section 9.
[3] *Essay*, bk II, ch. 1, section 4.

the past and those who say that we remember by means of a representation of what is remembered, a 'memory-image'. He thinks that what generates the controversy is a mistaken assumption, the assumption that in genuine remembering there is an act, experience or event of remembering. If there is such an act it must have a content. And so the question arises: is the content the thing remembered (in which case what is past must exist now, since I am remembering it now, and so it cannot be past) or is it something which merely represents the thing remembered (in which case there is the problem of saying what it is that makes the act one of remembering)?

We may feel inclined to ask Malcolm: But if remembering is *not* an introspectible act, what is it? Do you mean that to say someone remembers something is to say something not about his *inner* state but about his *outer* state, his behaviour (along with his dispositions to behave in certain ways)? But he holds that the mistake is deeper than one of mistaking the outer for the inner. It is the mistake of asking, in the first place, in what remembering consists. 'People remember things; but nothing that occurs, either inner or outer, *is* the remembering'. I shall not attempt to summarise what he says in explanation of this remark. Let it suffice to say that his inspiration, at least in part, is Wittgenstein's treatment of a similar question about meaning (see page 21).

Malcolm attacks the Lockean notion of mental operations, of which we are aware by an internal sense. In the paper by P. M. S. Hacker, Fellow of St John's College, Oxford, it is the view that colour words have meaning by standing for 'subjective modifications of a perceiver's mind' that is under attack. If we hold this view then such possibilities may occur to us as that what one person means by the colour word 'red' may be what another person means by the colour word 'green'. We may then try, and fail, to think of reasons for saying that what is possible is not actual. Hacker is concerned to show, by means of 'a surview of our use of colour predicates, a description of our linguistic practices which will display what is involved in explaining the meaning or sense of colour predicates, and what is requisite for possession of colour concepts', that what, if we follow Locke, we might suppose to be possible is not in fact possible. To be possible something must be intelligible, and the intelligibility of 'my assertion that something looks red to me ... presupposes cognizance of the criteria for asserting that something looks red to another'. The difficulty is that of explaining what 'cognizance of the criteria for asserting that something looks red to another' means, if the explanation is not to lead us into either scepticism or behaviourism.

Malcolm and Hacker find inspiration in the later writings of Wittgenstein for their attacks on the Lockean notion that the words 'remember' and 'red' have meaning for us by standing, respectively, for an introspected mental act and a sense-impression. Oswald Hanfling, Lecturer in Philo-

sophy at the Open University, on the other hand, finds a point of resemblance between Wittgenstein and Locke's empiricist successor, David Hume. The resemblance is in the references, to be found in both philosophers, to human nature. Instead of trying – and, of course, failing – to find a rational justification for what we do, we should be content, as philosophers, to recognise that we do things naturally, instinctively. We should be content to *describe*, and not search for an explanation, a justification, an answer to scepticism. But side by side with this, in Hume, is his commitment to the empiricist programme, 'the matching of each word with some item of experience, until the whole stock of our concepts would be accounted for'. Hence the big difference between the two philosophers. It can be described as a difference in what they regard as 'given':

For Hume, what is given . . . is always some simple thing that is sensed or felt; something like what he called 'impressions of the senses or memory', or some 'internal impression' such as Hume conceived the will to be.
    Wittgenstein wrote: 'What has to be accepted, the given, is – so one could say – *forms of life*.' This sentence reflects his rejection of the whole machinery of sense-data, and the atomism that went with it.

Hanfling draws a parallel between Hume and Wittgenstein on the postulation of occult qualities, processes and substances. He says that one of Wittgenstein's main objectives 'is to cure us of the urge to suppose that whenever something mental is predicated of a person, there must be something *in* his mind to make that predication true'. Malcolm, in what he says about remembering, clearly shares this objective. The position of D. M. Taylor, Senior Lecturer in Philosophy at the University of Kent at Canterbury, is less clear to me. He invites us to acknowledge that mental states are in some sense private, and that statements about one's own mental states are authoritative, and he proposes to enquire as to the origin, or source, of these characteristics. 'Is it that mental states and events are peculiar, even spooky, or is there a more mundane explanation?'
    Malcolm describes (but does not explain) the phenomenon which interests Taylor, in a paper entitled 'Behaviourism as a Philosophy of Psychology'.[1] He writes:

The testimony that people give us about their intentions, plans, hopes, worries, thoughts, and feelings is by far the most important source of information we have about them. This self-testimony has, one could say, an *autonomous* status. To a great extent we cannot check it

[1] In T. W. Wann (ed.), *Behaviourism and Phenomenology* (Chicago, 1964).

against anything else, and yet to a great extent we credit it. I believe we have no reason to think it is even a theoretical possibility that this self-testimony could be supplanted by inferences from external and/or internal physical variables . . . Within the whole body of language the category of first-person psychological sentences has crucial importance. Man's puzzling status as a subject and a person is bound up with these first-person utterances, having the two striking characteristics I have tried to point out: First, that for the most part, they are not made on the basis of any observation; second, that they are 'autonomous' in the sense that, for the most part, they cannot be 'tested' by checking them against physical events and circumstances, other than the subject's own testimony. If we want to know what a man wants, what he is thinking about, whether he is annoyed or pleased, or what he has decided, the man himself is our best source of information. We ask *him* and he tells us. He has a privileged status with respect to information about himself. . . . I have argued that behaviourism fails to perceive self-testimony in a true light. It mistakenly assumes that when a man tells you what he wants, intends, or hopes, what he says is based on observation, and, therefore, he is speaking about himself as if he were an *object of observation*. Behaviourism also assumes that these first-person utterances, since they are observational in nature, could theoretically be replaced by the observations of another person, although this might require 'technological advances'. Behaviourism, in other words, fails to perceive that self-testimony is largely autonomous, not replaceable even in principle by observations of functional relations between physical variables. Perhaps the best way to sum up behaviourism's shortcomings as a philosophy of psychology is to say that it regards man as solely an object.[1]

In some respects Taylor's position is very similar to Malcolm's anti-behaviourist one. Like Malcolm, he is opposed to 'having the question what one thinks or wants answered for one, by others'. He says that 'humiliation results in such cases from the sense of being treated as a thing to be talked about and pronounced upon but not worthy of talking, or pronouncement', and he talks of a person being 'reduced to the status of an object'. Where Malcolm says that a person's first-person utterances are 'autonomous' Taylor says that 'there can be no criteria, or sufficient condition, of thoughts or wants, independent of what a man says'.

In line with this one might take Taylor's answer to his question whether mental states are 'peculiar, even spooky' to be as follows. Some philosophers embrace the view that thinking, wanting, and so on, are things we know about by introspection because they think the only

[1] Ibid, pp. 153–4.

alternative is behaviourism, which involves the denial that a person's statements about his own mental states are authoritative. But there is a third alternative, which is neither introspectionist nor behaviourist, and which allows a person's statements about his own mental states to be authoritative.

The reason why I say I am unclear as to Taylor's position is that this third alternative is a *non*-empirical account of mind — self-testimony is not based on observation, either inner or outer — and yet Taylor claims to be giving an empirical account of mind.

I mentioned, above, the problem, for someone who holds that perception is the passive reception of sense-impressions, of explaining how it is that perception seems to be not of the particular alone, but of the universal in the particular. Locke, I suggested, did not recognise this problem. But his treatment of another problem — that of our seeming to see a globe as convex — suggests that, had he recognised the more fundamental problem, he might have tried to solve it in terms of our confusing (or 'fusing') what we think with what we see. Somehow we impose our thoughts, our concepts, on what is given to us to perceive, so that instead of *sensing* an 'unconceptualised' sense-impression, and *thinking* 'something is yellow', we seem to *see* something *as* yellow. But what, precisely, is this act of 'conceptualisation' whereby sense-impressions are converted into meaningful perceptions? Someone wanting to understand empiricism as a theory of perception will look to the empiricist for a theory of 'conceptualisation' as well, of course, as for reasons to suppose that there are such things as sense-impressions to be conceptualised. Will he look in vain?

D. J. O'Connor, Professor of Philosophy at the University of Exeter, provides a recognisably empiricist account of perception, though he uses the term 'sense-datum' in place of 'sense-impression' or 'idea'. (I think his only use of the term 'idea' is in his rather Lockean remark that 'language is pre-eminently a device for the storage and retrieval of structures of ideas'.) Sense-data, he says, are parts of sensory fields, which are the 'basic unconceptualised raw material' of our perception of the world. He says that any expression in language of a visual experience, even 'I see yellow', is 'already conceptually tainted'. What account does he give of conceptualisation? And what reason does he give to suppose that there are such things as sense-data?

To the first question the answer is that he gives an account which is exclusively metaphorical. It is in terms of the metaphors of weaving, moulding, clothing, and endowing. He writes of the complex conceptual network 'woven' into our sensory fields, of sensory fields being 'moulded' by concepts, of choosing the right set of concepts to 'clothe' the raw data (and of raw sensory fields being clothed with a variety of conceptual 'apparel'), and of concepts 'endowing' sense-data with meanings.

To the second question the answer is that he defines 'sense-data' as 'parts of sensory fields', and gives a reason for holding that sensory fields are 'ontologically distinct' from material objects, namely that their features do not match those of material objects. For example, because of limitations in the sensitivity of our sense-organs we may see two things as being the same shade of yellow which are in fact reflecting light of slightly different wavelengths to our eyes. Or, because of drunkenness or failing eye-sight a pencil may appear blurred which in fact is not blurred. (In the sense of 'an indistinct blurred appearance' a blur is essentially in the realm of appearance, not in that of reality.) As an argument for the existence of sense-data defined as parts of sensory fields this seems to me unassailable. But I do not see how it can be an argument for sense-data defined as the 'unconceptualised raw material' of perception. I do not see how sense-data can have features which can be contrasted with those of material objects unless they have features, i.e. are *not* 'unconceptualised'.

I take the primary meaning of 'interpret' to be that in which a sentence in one language is translated, by someone who understands it, so as to provide a sentence, with the same meaning, in another language. There are bi-lingual people engaged in this activity, called 'interpreters'. A readily intelligible secondary meaning of 'interpret' is that in which there is only one language involved, and we talk of an ambiguous sentence (e.g. 'He was drawing on the bank') being given two different interpretations. Interpretation in this secondary meaning is different from interpretation in the primary meaning in that one does not first understand the ambiguous sentence (with a 'neutral' meaning, so to speak) and then think of two alternative meanings for it. Interpreting in this secondary meaning is something we do in the sense in which, say, winning or losing a race is something we do, not in the sense in which running is something we do. It is not an activity in which we can be engaged, as is interpreting in the primary meaning. We talk of 'interpreting' not only ambiguous sentences but also ambiguous drawings. We can interpret a duck-rabbit figure as a drawing of a duck or as a drawing of a rabbit. Suppose it is asked: 'We interpret it differently. Do we also *see* it differently?' This is a question Wittgenstein asks, and which is discussed by P. B. Lewis, Lecturer in Philosophy at the University of Edinburgh. He says that one way of taking this question is as inviting the Lockean reply that what is really seen is a visual impression, and that anything else is the result of an act of judgement, and so, strictly speaking, not something that is seen. This way of taking it accords with thinking of interpreting as an activity (if *treating* a duck-rabbit figure as a drawing of a duck can properly be called an 'activity'), but if the answer to 'Do we also *see* it differently?' were to be 'Yes' then the Lockean reply would entail that there must be a visual experience which distinguishes the duck-appearance of the figure from the rabbit-appearance and which can be described *directly*, that is, in

purely visual terms and not by reference to ducks and rabbits.

I remarked that the philosophical theory of empiricism has fruits in epistemological problems about how we can possibly know things it does not ordinarily occur to us to question, such as that tables and chairs continue to exist when unperceived. One way of dealing with this particular problem is to say that statements about unperceived objects are to be analysed as hypotheticals. To say that the table I write on exists when I am out of my study is to say that *if* I was in my study I might perceive it. The germs of this 'phenomenalist' solution of the problem are to be found in Berkeley; its full fruition, in J. S. Mill. Alan Hobbs, Lecturer in Philosophy at the University of East Anglia, writes, not about phenomenalism, but about what he calls 'new phenomenalism'. He is at pains to dissociate himself from the presuppositions of old-style phenomenalism:

> Locke, Berkeley, and Hume, to different degrees and with varying emphasis, all contend that meaningful utterances and empirical beliefs must be traced back to simple sensory impressions. These sensory *impressions are held to provide an exit from word-word expositions of* meaning, and an escape from the regress of belief-belief justifications. At the ground-level of meaning and of belief, the subject simply confronts his sensory impressions and thereby acquires both basic meanings and basic beliefs. Crucial to these theories is the notion of a sense-impression as an unconceptualized, non-epistemic particular. Without such a notion, the distinctive character of these analyses of meaning and of basic belief would collapse. The hybrid of phenomenalism which this paper sets out ignores these traditional doctrines. The connections which it claims to trace are between one type of belief-reporting statement and another; not, as with traditional Empiricism, between a type of belief-reporting statement and some non-epistemic state.

The belief-reporting statements which are regarded as basic in new phenomenalism are, roughly, disjunctions of perception and hallucination claims. Accordingly, Hobbs says, 'the resultant explanation can be expected to clarify the status of perceptual knowledge, but it cannot constitute what has been traditionally called "an analysis of perception".'

Hobbs says that new phenomenalism is a 'rag-bag construction from a number of contemporary philosophers'. He quotes from P. F. Strawson and Jonathan Bennett. In the discussion which followed his lecture I asked him whether he regarded me as a new phenomenalist. He said that he did. Re-reading my now ancient paper 'Unthinking Assumptions and their

Justification'[1] I think there is some justification for this. The point at which I part company with Hobbs — and with present-day empiricists like Ayer — is in the use of the word 'hypothesis'. Hobbs says that 'the new phenomenalist must admit that the hypothesis of a-world-perceived *is* an hypothesis, . . .' If a new phenomenalist *must* admit this, then I am not a new phenomenalist. In my *Mind* paper I was explicitly attacking use of the word 'assume', in talk of our unthinkingly assuming that there are things which exist unperceived. But my remarks would apply equally to 'hypothesize', and I did, in fact, quote a passage from McTaggart in which the word 'hypothesis' occurs, to illustrate the kind of philosophising I was criticising.

Hanfling, in a passage contrasting Wittgenstein with Hume, says that Wittgenstein rejects 'the whole machinery of sense-data'. The implication is that Hume's 'impressions' are sense-data. If sense-data are what O'Connor calls 'the unconceptualised raw material' of perception, then R. J. Butler, Professor of Philosophy at the University of Kent at Canterbury, would disagree with this interpretation of Hume. He says that ideas and their antecedent impressions resemble one another in 'conceptual content', and something which is unconceptualised can hardly have conceptual content. Another way of saying that for Hume impressions have conceptual content is, it would seem, saying that Hume thought of them 'propositionally'. Butler cites such reasons for thinking this as that Hume speaks of them as thoughts, and as possible objects of belief.

Locke wrote: 'Our observation, employed either about external sensible objects, or about the internal operations of our minds, perceived and reflected on by ourselves, is that which supplies our understandings with all the materials of thinking'.[2] It does not follow that all our ideas are real, that is, conform with the real being and existence of things. We can misuse 'the materials of thinking' to create complex ideas which are 'fantastical or chimerical', ideas which lack that correspondence with the constitution of real beings which our simple ideas have.[3] Suppose we then make up sentences containing words which signify these ideas. What are we to say about such sentences? We might say that no truth can correspond to them, or that they are not 'factually' or 'cognitively' meaningful. Asked to formulate a principle about this, we might say that for a sentence to have factual or cognitive meaning it must express a statement that can, at least in theory, be confirmed or disconfirmed by making observations. We would then be in the vicinity of the most distinctive doctrine, the 'Verifiability Principle', of the twentieth-century heirs of British empiricism, the logical positivists.

[1] *Mind*, LXIII (1954) pp. 226–33.
[2] Locke, *Essay*, Bk I, ch. 1, Section 2.
[3] Ibid, Bk II, ch. 30, Section 1–2.

Is there some formulation of the Verifiability Principle which we can accept without accepting the empiricism that lies behind it? Stuart Brown, Senior Lecturer in Philosophy at the Open University, thinks there is, though it is a formulation which makes it no longer a criterion of meaningfulness. But, Brown argues, it had already ceased to be such a criterion in Ayer's 'weak verifiability' formulation. Rather, it had become a criterion for demarcating science from non-science. In Brown's formulation the principle is about the conditions of our having beliefs:

> If there are no considerations which count as tending to determine the truth or falsity of an hypothesis (H) as opposed to that of any apparently competing hypothesis, then no assertion put forward as an independent judgement about H can be an expression of *belief* or doubt as to the truth or falsity of H.

Brown defends this formulation with an analysis of 'expression of belief': someone's assertion 'will not be recognisable as an expression of belief unless further clarification tends in the direction of answering the question "What makes him believe that?" with something which is recognisable as a *reason* for believing it.'

Errol E. Harris, Professor of Philosophy at Northwestern University, sees the main tenets of philosophical empiricism as being (i) that the original source of all knowledge is passively received sensations, and (ii) that all sensuous impressions, and the ideas derived from them, are particular existences, with no evident connection between any two of them. The consequence of philosophical empiricism for scientific methodology has been that it is either deductive or inductive. This raises the problem as to how science makes discoveries. The relation between observation and theory cannot be what traditional empiricism holds it to be:

> Observation may never be merely random and haphazard if it is to be scientific; but, without a prior hypothesis, random and haphazard is all it could be. Experiment is actually the question that the scientist puts to Nature, and no question arises unless some theory is already being entertained. Further, all observation, even the most naive, is an interpretation, in the light of prior knowledge, of presented 'data' (though I use that word with reservation, because nothing intelligible is ever merely 'given').

Harris is not satisfied with Popper's view that new theories are pure conjectures. Hypotheses, he says, 'are prompted by rational considerations', so 'some kind of logical account of them should be possible'. It will be an account which exhibits the origin of new theories as a step in

the successive adjustments of an explanatory system, so as to remove contradictions. The reasoning involved is constructive, rather than inductive or deductive, and, he says, 'seems to demand a logic akin to both at once and yet identical with neither'. But, in the end, Harris admits to not knowing what the precise logic of this form of reasoning may be.

L. Jonathan Cohen, Fellow of The Queen's College, Oxford, examines possible ways in which what he calls 'criterial empiricism' may be defended. Criterial empiricism is the thesis that all beliefs about the structure and contents of the natural world are ultimately to be appraised for their truth, soundness or acceptability in terms of the data afforded by perceptual acts of seeing, hearing, smelling, tasting, or touching. Cohen dismisses five possible defences of this thesis. He dismisses the two classical arguments for criterial empiricism, giving reasons for not accepting the premisses of the arguments. The first is that since the elements composing our thoughts are copies of previous perceptions, the truth of a thought must always be apprehended by reference to the perceptual realities it purports to represent. The second is that since phenomenalism is true, every statement about existent entities must be a statement about perceivables and thus exposed to empirical checks. Cohen then proceeds to a lengthy discussion of the verification principle as a defence of criterial empiricism, a discussion which bears interestingly on some of the issues raised by Brown and by Harris. (In particular I see a similarity between what Harris says about the reasoning involved in the origination of theories being 'constructive', and Cohen's remark that 'it is not empiricism that sets permanent limits to science, as the phenomenalist claims, but science that progressively extends the horizons of empiricism'.) He concludes that verificationism can afford no support or defence for criterial empiricism. The two remaining defences Cohen dismisses are based on the apparent success that has attended the orientation of science towards criterial empiricism, and the need for scientists to employ interpersonally acceptable standards of evidence. He ends by advancing a defence of his own, the essence of which is that 'the need to invoke empirical criteria for the validity of our fundamental explanations is forced on us by the desire to make our explanations as unified and comprehensive as possible'.

Someone who is a criterial empiricist because he is a phenomenalist will analyse statements about an object's dispositions in terms of hypothetical statements about its observable properties or manifest behaviour. R. S. Woolhouse, Senior Lecturer in Philosophy at the University of York, contends that whilst hypotheticals are involved in the analysis of many dispositional statements, they are not invoked in the way the empiricist supposes. He argues that the notion of a disposition involves that of a 'tensed necessity', and therefore that empiricism fails in its attempt to bring things 'down to earth'.

A related question is taken up by Guy Robinson, Senior Lecturer in

Philosophy at the University of Southampton. 'Do the modalities of necessity and possibility attach to individuals or only to our classifications of them?' Robinson is interested in this for its bearing on determinism. If there are only *de dicto* modalities, he holds, determinism seems to lose its grip. He brings to bear on the question the writings of philosophers as various as Aristotle, Leibniz, Popper, Quine, David Lewis and Plantinga. Aristotle, with Robinson's help, and Leibniz, with God's, survive to fight another day.

A thoroughgoing empiricist will not be content to limit the application of his empiricism to the subject matter of the natural sciences. He will want to extend it into all areas of human concern. In ethics, empiricism may take a variety of forms. It may, as in utilitarianism, take the form of identifying the right action with that which is conducive to the production of certain states thought to be empirically definable. Or, when utilitarianism is rejected as an ethical theory because it commits the 'naturalistic fallacy', empiricism may take the form of a denial that there are 'non-natural qualities' and the assertion that moral utterances are not descriptive, but 'emotive'.

Stephan Körner, Professor of Philosophy at the University of Bristol and at Yale University, finds reasons for rejecting utilitarian, contractual and emotivist empiricist theories of ethics. (A contractual theory holds that an action is morally good if it conforms to the regulations of a well-regulated system of social institutions.) He advances a theory of his own, which, he claims, enables him (i) to acknowledge the fundamental difference between moral and non-moral attributes, and (ii) to account for it otherwise than 'by identifying moral with non-empirical attributes of a special kind'. The key to his 'new empiricist ethical theory' is the recognition of 'a feature which, though familiar in one's practical experience, has been strangely neglected by moral philosophers, namely the possibility of a person's having practical attitudes towards his practical attitudes'. There are, thus, attitudes at different levels: a person may, for example, have an anti-attitude to his pro-attitude towards smoking (that is, he may wish he didn't like smoking). This would be a case of a first level attitude being 'negatively dominated' by a second level one. A necessary characteristic of moral, as opposed to all other practical attitudes, Körner says, is that the practical attitude of second level is undominated. But for it to be a moral attitude something more is necessary: the second level attitude of a person must be 'directed not merely towards possession of the first level attitude by himself, but towards possession of the first level attitude by every human being and thus *eo ipso* by himself'. Körner claims for this account of the general structure of morality that it exhibits 'an aspect of the systems of practical attitudes which as a matter of empirical fact are discovered by introspection and the observation of others'. Whether he is right about the nature of moral attitudes is, then, for you,

the reader, to decide — by the empirical method.

GODFREY VESEY

Honorary Director
Royal Institute of Philosophy

Professor of Philosophy
and
Pro-Vice-Chancellor, Academic Policy
The Open University