Experience

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II.—EXPERIENCE

By B. A. Farrell

I want to deal with a question that bothers physiologists and psychologists. It is a familiar question for philosophers, but I want to deal with it as it appears to *them*, not to us. Consequently, I shall begin by explaining at some length how the problem does arise for them.

Adrian, in *The Basis of Sensation*, said many years ago that "whatever our views about the relation between mind and body, we cannot escape the fact that there is an unsatisfactory gap between two such events as the sticking of a pin into my finger and the appearance of a sensation of pain in my consciousness. Part of the gap is obviously made up of events in my sensory nerves and brain." In his Waynflete lectures, *The Physical Background of Perception*, he purports to fill the gap even further by telling us about the structure and activity of the brain. He discusses the nature of the mechanism which would be needed to copy the activity of the brain—in particular, the activity of recognising significant relations and of learning skilled movements. After suggesting the sort of material events and changes that must occur in the brain to account for this sort of activity, he says "Yet there remains the formidable problem of the intervening events. The human mind comes in somewhere in the chain of causation between the physical events in the sensory and the motor pathways." Mental events, he goes on, must be closely connected with the material process going on in the cortex, and we must try to make such a connexion seem plausible. In an endeavour to make this connexion seem plausible, he discusses the suggestions of Kenneth Craik and says that "Craik could only suggest that consciousness comes in at certain points in the process of neural transmission where the physiological patterns have a particular kind of definiteness. . . . On this hypothesis, we could tell what someone was thinking if we could watch his brain at work, for we should see how one pattern after another acquired the necessary brilliance and definition."

This attitude of Adrian's seems fairly representative among physiologists working in this field. They suffer severely from the occupational disease of traditional dualism.[1] Adrian's talk

[1] See also, for example, Morgan (of Johns Hopkins) *Physiological Psychology*, McGraw Hill, 1943.

is also illuminating because it brings out the acute difficulty these neurologists are in. They would be only too thankful if they could ignore the intervening mental events altogether. What they would like to have is the assurance that they—as physiologists and neurologists—can in principle give a *complete* account of what happens when we think, recognise things, remember and see things; and that they are safe in ignoring the mind and all intervening mental events whatever. But the road to their professional heart's desire is blocked by what seem to them overwhelming objections. In particular, there is the old objection. To assert that a complete account of thinking, of having a sensation, and so on, can be given in physiological terms alone appears to entail that mental events are either reducible to physiological and neural ones (which is absurd), or else do not exist (which is false). So physiologists are reluctantly also ready to agree that *any* physiological and neural account of what happens when we think, etc., even if it is a definitive one for the time being, will leave out certain essential parts or aspects of the total process—the parts or aspects "where the mind comes in". They might be inclined to express their dissatisfaction with their own accounts like this: "When a person sees things, thinks, and so on, it is obviously not true that *all* that is going on are the material processes that we physiologists describe. Certain mental processes are also going on. He is having certain sensations and feelings. In general, he is having certain experiences. And it is this that we have to leave out and cannot cope with."

But at this point the physiologists, like the plain man, are apt to get an idea, and to turn with relief, if not with hope, to psychology. "It is the business of psychology", they may say, "to deal with our sensations and feelings. And if it would only hurry up, then, with the physiological account of the neural basis of experience, the two sciences jointly might be able to offer a presentable account of what happens when we see and feel", etc. This is a very reasonable and obvious appeal for assistance, since the psychologists do almost invariably and expressly accept "experience" as falling within the subject matter of the science. Almost invariably, they describe the subject matter as covering both "behaviour and experience".[1] Presumably therefore they do claim to give a scientific account of both.

[1] This conjunction soon becomes familiar to anyone perusing the textbooks, *e.g.* Thouless, *General and Social Psychology*, Ch. I. In Boring, Langfeld and Weld (ed.), *Foundations of Psychology* (1948), the conjunction appears as "behaviour and consciousness".

Let us remind ourselves how psychologists do set to work to deal with "experience"—with our sensations, our feelings, and so on; and what sorts of discoveries they make about them.

Consider sensation. What a psychologist does is to take a Mr. X and use him as a subject in a laboratory. He might use Mr. X as a subject by, for example, subjecting him to the important classes of stimuli that are likely to affect X's sense organs —*viz.*, mechanical, thermal, acoustic, chemical and photic stimuli. In this way he will discover from X's responses and discriminations whether X's sensitivity is normal or not—whether, for instance, X is colour blind or not, or has abnormally acute acoustic sensitivity, and so on. Or he might vary the stimuli in respect of their quality, intensity, extension or duration in order to discover whether X's responses show corresponding variations. The sort of generalisation the psychologist produces is exemplified in the Weber Law about differential thresholds, and later modifications of this; or in a generalisation about the primary qualities of the stimuli in question from which all other qualities are obtained (*e.g.*, "in vision, the primaries are red, yellow, green, blue, white and black").

In experimenting on X as subject, it is not necessary for the psychologist to make X talk to him. *In principle*, everything he wants to know can be discovered by making X behave like a dog and depress keys or open lids or perform some such motor response that shows the psychologist he has made the discrimination in question. Just as we can discover that a dog can distinguish between red and green colours by successfully training the dog to distinguish that the red light over a door means it is open, whereas the green light means it is shut, so the psychologist can in principle discover that X is or is not colour blind, can or can not react to this or that variation in the stimulus and so on. But of course, it is ever so much more convenient, and indeed very often necessary at present with our limited experimental techniques, to ask X to report what he does see. Provided that these reports are of the very simple Yes-No variety, and the psychologist has good reason to believe that X is co-operating with him, there is no methodological objection whatever for not also using X's verbal reports.

One further thing a psychologist also does. Quite often he places himself in the role of subject. For laboratory purposes it is often convenient for him to play the role of X. Now it may or may not be the case that, when he does so, he makes observations of quite a different sort to those he makes when he merely observes X reacting to the same stimulus—*e.g.* a red disc. I

will come to this later. What is important to note is that by playing the role of observer-subject, he does not add anything to the discoveries of psychological science that he could not in principle obtain from the observation of X alone ; and no new concepts are required to deal with what his own subject-observation reveals which are not also required by what was, or can be, revealed by his observation of X.

This, then, though very roughly, is how contemporary psychologists go to work. They investigate remembering, learning and thinking, feelings, attitudes and traits, temperament and personality in the same sort of way as they investigate sensations.

But this seems to psychologists an awkward and ridiculous situation. For it means that the science of psychology does not deal with " experience " either. Thus, in describing how subject X reacted to different types of stimuli, it is clear that we were not dealing with X's sensations at all, but with his behaviour ; and the discoveries that psychology claims to have made about " sensation " have not been about " sensation " at all, but about the sensitivity of organisms to physical stimuli. To describe all this work as being about " sensation " is just false. This situation is awkward because it means that we are no nearer dealing with the facts of experience, which brain-physiology leaves out ; and so no nearer providing a scientific account of it, which could supplement the account given by physiology, and thereby provide a reasonably complete picture of what happens when we have a sensation, or feel, etc. This situation is ridiculous because, while psychology purports to be the scientific study of experience, and lip-service is paid to this attempt in the usual definitions of its subject matter, the science, in effect, does not include experience within its purview. What psychologists feel the science should *somehow* also include is, for example, the sensation-quality that X undoubtedly experiences when, rat-like, he discriminates a red disc ; and the mental state he is in when he thinks, and not merely his behaviour ; and (to quote Stout [1]) the " unique kind of feeling-attitude towards an object " which we experience when we are in some emotional state, not merely the readiness and dispositions we exhibit towards the object of our emotion. Moreover, psychology should also aim at giving us the laws governing these sensation qualities, emotional states, and so forth. But all this is just what contemporary psychology does not include and do. The fact that the subject X and the psychologist himself both have sensations, and so forth, is simply ignored.

[1] *Manual of Psychology*, Bk. III, Ch. IV (5th Edition).

No doubt all this sounds stale and naïve to puzzle-wise professional philosophers. But to date we cannot flatter ourselves that we have done much to help the psychologists, poor animals, out of their maze. Like the physiologists, the ordinary working psychologist would be quite pleased in a way to get rid of sensations, feelings, etc., as items of experience, and deal solely with reactions, discriminations, behaviour-readinesses, and so on. But he cannot bring himself to do so. For he sees himself faced by the old unpalatable alternative. To get rid of " experience " can only be done by denying that we have sensations, etc., or by refusing to bother with them. But to assert that we do not have sensations, or that no experiences occur, is to assert what is palpable false ; and to refuse to bother with them is to leave out certain phenomena, or aspects of phenomena, that psychologists are supposed to investigate.

Some psychologists, chiefly American I think, have paraded their embarrassments (being less inhibited than their British colleagues), and have tried to deal with them. For example, Tolman (of California), in his *Purposive Behaviour in Animals and Men*, distinguishes between discriminations, discriminatory readinesses and so forth, on the one hand, and what a psychology of discriminations leaves out on the other. What it leaves out he calls " raw feels ". These raw feels, he says, are not capable of scientific treatment, and he admits at the end of the book that he does not know what on earth to do with them. He suggests three scrap heaps on to which they may be thrown. They may be ignored as scientific will of the wisps. They may be assumed to correlate consistently with our responses and response readinesses, so that in so far as X and Y behave alike they have the same sort of experience. Thirdly, " Raw feels may be the way physical realities are intrinsically " so that, *e.g.*, experienced qualities may be " the intrinsic nature of a nervous process ". By contrast, Boring (of Harvard) will stand no such metaphysical nonsense. In *The Physical Dimensions of Consciousness* (note the word " physical "), and again in a more recent article,[1] he has argued like this. In the early stages of our physiology and psychology, interaction seems the obvious answer, because we find stimulus causing sensation and sensation causing movement. But as our knowledge advances, psycho-physical parallelism is suggested, because sensation then seems to parallel some middle part of the series of material events, between, say, the prick of the pin and the jerking away of my arm. But

[1] " Mind and Mechanism " in *The American Journal of Psychology*, April, 1946.

were our knowledge to be complete, so that we had a perfect correlation between sensation and neural process, we should *then* identify the two. We are not inclined to do so now, but we will, when the time comes. And he proposes to hurry up the transition a bit by doing some propaganda himself and saying " Neural process and sensation *are* identical ".

First steps: " behaviour " and " experience ".

Well, what can be done about this? Let me simplify the question by talking for the most part about that form of experience we call sensation.

Suppose subject X is asked in a laboratory: " Please tell me what you are seeing now "; and suppose he answers: " I see a red patch ". Now take the sentence: " If we merely consider all the differential responses and readinesses, and such like, that X exhibits towards the stimulus of a red shape, we are leaving out the experience he has when he looks at it ". I shall call this sentence ' A ' for short. It is, no doubt, only a sentence that someone doing psychology would ever utter. But, when we appreciate this, it seems quite a straightforward sort of remark, with nothing odd about it. It has this appearance because it seems to resemble quite ordinary remarks like the following.

Sentence 1. " If you merely consider what Y says and does, you leave out what he really feels behind that inscrutable face of his." Sentence A resembles sentence 1 in that both are apparently saying that, if you rely only on the publicly observable behaviour of the person, you will be ignoring his private experience; and you may be wrong in the guesses you make about it. It is quite sensible and often true to utter sentence 1, or something like it. Why not also sentence A?

Sentence 2. " If you only consider the obvious overt behaviour of an ape when solving one of Köhler's problems (*e.g.*, getting the banana from the roof by piling up boxes on each other and climbing up), you leave out that when it sat still once or twice, it was obviously doing something like ' cogitating ' about the problem." And

Sentence 3. " If we just treat a small child as a bundle of reflexes gradually being conditioned à la Watson, we are in danger of forgetting that the child also has feelings and vague wants of its own, and is not just a performing rat."

The resemblances between sentence A and sentences 2 and 3 are similar to those between sentences A and 1. I deliberately chose two technical examples that have cropped up in the history of the subject, because it is these that are apt to influence

psychologists more immediately than those from ordinary discourse.

But of course sentence A is also *quite different* from sentences 1, 2 and 3. Take sentence 1. What we leave out here is something that Y can tell us about. We might say of him: "Can't he be persuaded to be a bit more open and tell us what he really feels about our proposal?". Or "If Y goes on being so secretive and withdrawn, I shall persuade him to go for psychological advice. Perhaps the chance to talk to a sympathetic person may help him to get things off his chest." Contrast this with X in sentence A. What is left out here is something that X cannot in principle tell us about. He has already given us a lengthy verbal report, but we say that this is not enough. We want to include something over and above this, *viz.*, X's experience. It is useless to ask X to give us further reports and to make further discriminations if possible, because these reports and discriminations are mere behaviour and leave out what we want. It is obviously pointless, therefore, to recommend X to go to an analyst, so that he can then tell us about the experience he has when he looks at a red shape and that we have so far ignored.

The same sort of differences hold for sentences 2 and 3 as well. This can be seen by imagining that the ape and the child were suddenly given the gift of human adult speech and the discriminatory capacity that goes with it. They would then give us the *same* sorts of reports that X gives us in the laboratory, and thereby enable us to include what we might have been in *real* danger of leaving out of our account of how they (ape and child) solve problems—*viz.*, that they too cogitate, have wants and so on. Again, therefore, it is quite obvious that what we were in danger of leaving out in the cases of the ape and the child is quite different from what we feel we are leaving out in the case of X.

At this point the commonsensical objection is useful (that we *must* be leaving out X's experience if we only consider his behaviour) because it emphasises that we do not normally use "experience" and "behaviour" as synonyms, but more often than not as contrasts. Thus, *e.g.*, you might say: "I did nothing but felt a shiver down my spine"; or we might say: "Those factory hands who do a routine job usually have a rich day dream life"; or "He plays tennis quite well but he still does not enjoy it". In these examples, it would be quite wrong, or odd, English to describe your shiver, the day dream life of the factory hands, or the joyless experience of the tennis player as

" behaviour ". This contrasting use of " behaviour " and " experience " reinforces our tendency to say that behaviour sentences inevitably " leave out " the person's experience. But, of course, when we look more closely at the sentences where we do use " experience " in a way that contrasts with behaviour, we notice at once that these sentences, like numbers 1, 2 and 3 already mentioned, also differ from sentence A in the same sort of way. The experiences of the factory hands and the tennis player are describable, the " left out " experience of X is not.

This normal use of " behaviour " and " experience " draws attention to the odd and stretched use of " behaviour " we are now employing. For, in order to show that what we are alleged to be leaving out is something very odd, we stretch the word " behaviour " to cover, at least, the covert verbal and other responses of the person, his response readinesses, all his relevant bodily states, and all the possible discriminations he can make to the presented red shape. But, in spite of this stretching, we are *still* dissatisfied. We *still* want to draw a line between X's behaviour in this sense and his experience. We want to do so because this distinction still seems to have a point here. For example, we still want to pose the schoolboy question : " When X and Y both look at a red patch, and show no discoverable differences of response, how do we know that what X sees is like what Y sees ?—that their experience is qualitatively identical ? ". We still want to say that when a congenitally blind person has his sight restored, it is not simply the case that he now does and can respond differentially to a new range of stimuli. We want to say that his experience is now qualitatively different. We still want to distinguish between robots and men by saying that the former have no sensations. We also want to use this distinction between " behaviour " and " experience " whenever we think of the Martians, or of the " men whose heads do grow beneath their shoulders " and wonder what it would be like to be one of them. To stick to this distinction seems to be the only way of satisfying our wants here and of talking like this. So even if it be true (as Mace alleges it is [1]) that " statements about mind or consciousness just turn out to be, on analysis, statements about the behaviour of material things ", we still feel like retorting that this is at best only true for psychological purposes, and in any case, so much the worse for the psychology that demands such a result.

Now I could go through these queer and difficult cases at once

[1] " Some Implications of Analytical Behaviourism ", *Arist. Soc. Proc.*, 1948-49.

in order to discover whether we *do* need the distinction between " behaviour " and " experience " to talk about them. But this may be a little premature and produce unnecessary resistance. So I shall try another tack first.

Why this experience is so odd.

I shall say that the experience of X, which we are alleged to be leaving out, is featureless. This is in contrast with the experiences referred to in sentences 1, 2 and 3 above. The experience of X is featureless because there is nothing about it that X can discriminate. If he does discriminate something that appears to be a feature of the experience, this something at once becomes, roughly, either a feature of the stimulus in the sort of way that the saturation of the red in the red shape is a feature of the red shape, or a feature of his own responses to the shape. X merely provides us with further information about the behaviour that he does and can perform.

But surely this is mistaken ? Surely it is wrong to say that it has no features ? For, even if it is always false to say of the experience we are leaving out that *e.g.* " It is red ", or " It is extended ", what of the so-called " formal " predicates or properties ? No doubt we cannot say of it that it stands in spatial or causal relations to anything else. But surely we can say, *e.g.* " At least X's experience happens ". Surely, that is, we can say that it stands in " temporal relations " to other events or processes ? No—this will not do. For to say that " something or other happens quite frequently " is to say that the something occurs at different times. To say this is to say that this something is in principle datable. How now do we set about dating the occurrence that is X's experience at any time ? All *we* can do is to date X's responses. But suppose X, as subject-observer, sets himself the task of dating the onset of a certain raw feel experience, for example, the one that is supposed to happen when he sees two changing shapes as equally elliptical. When X times himself here, say by stopping a stop watch, all that he *can* time is his " seeing "—*e.g.*, his subvocal " Ah ! that's it ", his accompanying release of breath and muscular tension, and so forth. What, therefore, he dates is the onset of his seeing the shapes as equally elliptical. Difficulties only multiply if we now retreat and say " But we time the experience indirectly by timing the behaviour that it accompanies ? " *E.g.* What sort of " accompanying " does this ghost do ?

But surely we *can* say : " X's experience (in the raw feel sense, of course) is not identical with Y's " ? The answer seems to be

" No " again. Obviously we cannot be saying here that X's experience differs qualitatively from Y's, because admittedly neither have the sort of features that permits them to differ qualitatively. If we are saying that X's experience is not numerically identical with Y's, then presumably we are saying something like : " Oh no ! Mr. Shaw is our grocer—not G.B.S." ! ; " Its the same cheering you heard a minute or so ago " ; " It was the same explosion we both heard ". *I.e.*, we are presumably talking about things, or processes, or events. But X's and Y's experiences are not things, processes or events. We notice the difference if we ask : " As they have no properties like ' red ', ' long ', ' loud ', etc., how, in the first place, do we distinguish these two processes (or events), *viz.*, X's and Y's experiences, so that we can *then* assert that they are not the same ? " In the case of the cheering, or explosions, it is possible to do so. Here it does not seem to be.

But I *have* been saying quite a lot of things about experience in the course of this paper—if not positive, then at least negative, things. Thus, for example, I have said : " X's experience is such that there is nothing about it that X can discriminate ". If this is to be true, then presumably I am saying something about experience, if only in the indirect way that negative assertions do say things. But observe that, when I do come out with this assertion, and others like it, what I say is easy to follow and seems plausible because we are comparing it unconsciously with an assertion like " Ultra violet radiation cannot be discriminated visually ", or " When I play a chord on a piano, X just experiences a blur—he cannot discriminate a note ". Yet my assertion about experience is quite unlike these examples —obviously. Because of this, it is a confusion-producing assertion. It gives us the impression that we have been told something about the raw feel experience, just as we really are told something about ultra violet radiation, or X's experience on hearing a chord.

Yet I have suggested that we say " X's (raw feel) experience is featureless ". Should I have said this ? No ! It is equally muddling. For it looks like saying : " The landscape in a desert is featureless ", or " The faces in his paintings are quite featureless ", or " *The Times* is almost featureless ". But to say this sort of thing is compatible with the something talked about having all sorts of other properties ; to say " X's experience is featureless " is not. If it is suggested again at this point that what we can do is simply to reject it as non-existent, we are in trouble too. For to say that X's experience does not exist, or is

unreal, or that 'There is not such thing as X's experience', etc., is quite *unlike* saying:

1. Unicorns are unreal, Johnny.
2. There is no such process as perpetual motion.
3. Dodos don't exist any more.
4. There are no round squares.
5. No prime number exists between 19 and 23.

Unicorns are unreal because they are the creations of legend and heraldry. Perpetual motion is a physical impossibility. Dodos are extinct. There are no round squares because the concept is self-contradictory; and there is no prime number between 19 and 23 for logical reasons, since it can be proved quite simply that there is not one. 'X's experience' is quite unlike these cases. For one thing, we know what it is we are denying in these cases; with X's experience we do not. The snag is that we cannot discuss the question without using a substantive, like "experience", and the pronoun "it" (as in "It is featureless"). But this at once traps us into supposing that we are talking about some thing, process or event or state of affairs (or what not), to which this noun and pronoun, like other nouns and pronouns, are being used to refer. Obviously they are not being used in this way here, however difficult it is to get clear just how they are being used.

The upshot so far, then, is that to talk about X's experience as a process, or an event etc. is just confusion producing. It is foolish to say that it has, or has not any, features. It is foolish to label it as a shadow or ghostly process on the model of Ayer (in *Thinking and Meaning*), and then deny that it occurs. In particular, it is foolish to say that physiology and psychology ignore it and leave it out. There is no need whatever for Adrian to imagine that he is in danger of leaving anything out; and it is folly for Tolman to invent a special term, "raw feels", to refer to this unreferable something. For X's experience is not the sort of thing that can be ignored or noticed, left out or included. It is not the sort of thing of which one can fruitfully say "It is a sort of thing", and for which it is appropriate to use nouns and pronouns at all.

The objection of the indescribable experience.

"But is the man crazy? The argument so far has simply not shown that experience is featureless. All that it has shown, if that, is that our experience has no features that can be described, or discriminated, or reported in a laboratory. But the

fact that it lacks *such* features does not entail that it lacks *all* features. For it may still possess features with which we can only be acquainted. And this, of course, is the case. When, for example, we look at a red patch, we all just *know* what it is like to have the corresponding experience, and we all just *know* how it differs from the experience we have when looking at a green patch. We cannot describe this difference. But what of that? The fact that we cannot describe it should not be used to suggest the absurdity that nothing of the sort exists. We only land in this absurdity by restricting the sort of observations psychology can make to the observations of a third party (or subject), and by restricting acceptable observation-sentences to those in the third person. If we do this, it is no wonder that we are restricted to the observation and recording of behaviour and that we feel we are leaving out experience."

What makes this plausible? The fact that this situation appears to resemble stacks of cases where we do say or believe that some experience can only be appreciated at first hand, and cannot be described at all. "Oh! I cannot possibly begin to tell you what it was like—you must experience it for yourself." And the 'it' here may be anything from the beauty of the Alps or the thrill of ski-ing, to the prophetic character of the Epilogue of R. Vaughan Williams's Sixth Symphony and the esoteric pleasures of the professional philosopher. This sort of remark, moreover, is a well-established response with all of us, since it goes back to childhood. The child is continually being put *into* situations in order to appreciate them and learn about them; and he is continually being told: "Oh, you must wait until you are old enough to go to a pantomine yourself, and then you will know what it is like". Clearly, descriptions are pitifully poor conveyors of the qualities of an experience, especially to a child, because, to say no more, descriptions invariably do an injustice to the discriminations actually made and to the excitement with which they are made.

But is the indescribable experience of seeing a red patch like any of these? No—it differs in the relevant respect. When we say "We can't describe the experience of seeing a red patch" (in the raw feel sense) the "can't" is logical. When we say "We can't describe the prophetic character of the Epilogue of R. V. W.'s Sixth Symphony, you have to hear it for yourself", the 'can't' is the "hopeless" can't. No matter how carefully and intelligently the critics talk about it, they cannot work me up in the way the Epilogue itself can. If, however, X's seeing red patches in the past had occurred in unpleasant circumstances,

and X had acquired a horror of the things, then I might say: "I can't describe the unpleasant character that a red patch has for X". And then I would be using the "hopeless" can't. The "hopeless can't" seems appropriate where our discriminatory repertoire is poor, and where, from whatever causes, the stimulus (or object in question) produces emotional responses that a description cannot do, no matter how imaginative the listener may be. This points out where the distinction between "We can/We can't describe the experience" is useful. It is useful to say we can't describe the R. V. W. Epilogue, in order to distinguish it from relatively simple and humdrum experiences like going for a ride on a bus or having pins and needles. It is useless to say we can't describe the R. V. W. Epilogue, if we wish thereby to stress the likeness between the raw feel experience of seeing a red patch and the experience of hearing the Epilogue.

Let me try to deal briefly with this in a different way. Suppose we still feel like saying (Moore-wise, perhaps): "But we just do *know* what it is like to have the experience of looking at a red disc, and we just do *know* how this differs from looking at a green one". Presumably we would say that a rat, once trained to discriminate between a red and a green disc, had the experience (in some primitive way) of seeing a red disc. But we would hesitate to say that it knew that it had this experience—or knew what it was like to have this sort of experience. Well, then, what is true of us that is not true of the rat? Looking at it psychologically, we can react to our own responses to the disc by means of substitute, or symbolic, behaviour, and the rat cannot do so. When I, or you, claim to know what our experience of looking at a red disc is like, we imply, in part, that we are able to react symbolically to our response of "looking at a red disc". What we react to in this way is the pattern of stimulation produced by this response of "looking". Again, I may react symbolically to a pattern of stimulation that is called "a behavioural readiness" to respond to this red disc as I have responded to others in the past; and I may then say: "Oh, there's something very familiar about this red disc", or something of the sort. When, therefore, I say: "I just know what it is like to have the experience of looking at a red disc", I am saying, for psychological purposes, that I have the capacity to discriminate my own responses in the *same* sort of way as I discriminate the features of the red disc when I say of it, for example: "Oh, its bright, uniformly red", and so on. If we overlook this capacity to react symbolically to one's own re-

actions, or if we say we are doing "introspection" and do not enquire what actually happens when we do so, then we are liable to assert, with a flourish and an air of importance, that "we just know how looking at a red disc differs from looking at a green one". In other words, we are then liable to mistake features of our responses to the disc for some indescribable and ineffable property of the experience.

One consequence of all this. It makes no difference if a psychology allows or emphasises observation-sentences in the first person. "Experience" still remains featureless, and our observation and our recording cannot include it no matter how hard we try.

It is appropriate at this point to return to the difficult cases where it still seems to be essential to keep the distinction between "behaviour" and "experience". I only have space to consider two of these cases—the Martians and the robots.

A difficult case: The Man from Mars. (*a*) *"What it would be like to be a Martian".*

Suppose we had obtained from our Martian visitor all the information that we, as psychologists and physiologists, could obtain about his sensory capacities. We should probably *still* want to say: "I wonder what it would be like to be a Martian —with his pseudo-radio sense, able, for example, to listen to whatever wave length he chooses. Extraordinary!". This seems to be a perfectly sensible remark. But if there was nothing more to be discovered about the Martian than his actual and possible responses, then this would *not* be a sensible remark. We would know what it would be like to be a Martian and there would be no point in wondering about it. So there *is* something more to be learnt about the Martian, and that is what his experience is like. Similarly for our wonderings about babies, mice and lice.

Now we treat this remark ("I wonder what it would be like to be a Martian") as perfectly sensible because it resembles remarks like:

1. "I wonder what it would be like to be an opium smoker."
2. "I wonder what it would be like to be, and hear like, a bat."

In 1 and 2 the only sort of answer that will satisfy me is the sort of answer I will get if I became an opium smoker or a bat myself. That is to say, I am imagining myself in the role of observer-subject, *i.e.*, the role of the privileged observer, and I will be satisfied only with the sort of answer that I can then obtain. The demand for this sort of answer here is quite reasonable,

because it is a contingent fact that I am not an opium smoker or a bat (after all, a witch could easily change me into a bat for a day or so). Hence there is nothing absurd in the supposition that I should become a privileged observer here. Similarly, my wonder about the Martian seems to be the sort that can be satisfied only by a privileged observer's answer. What makes this answer seem so imperative is that the Martian's experience differs, *ex hypothesi*, from mine so much more than the opium smoker's, or even the bat's. It is this vast difference that inclines us to reject any attempted description of the Martian experience as feeble and inadequate. Moreover, as with the opium smoker and the bat, it is perfectly sensible to suppose that I should become a privileged observer here also; and it is this wonder what it would be like to be a privileged observer that leads us to say there is something *more* to be learnt about the Martian, namely, "What his experience is like".

But our wonder about the Martian is quite different from our wonder about the opium smoker. For what we want to know about the Martian is something that no privileged observer can give himself or us. Suppose I become an opium smoker and I then say: "I now know what it is like to be one". What do I know here? In part, I know the sort of thing I could embody in "Confessions of an Opium Smoker"; the sort of dreams the smoker has; how habit forming goes on so that ultimately his whole life becomes dominated by the drug. If I am confronted by another alleged opium smoker, my knowledge is such that I may be able to use it to help determine whether the other man really is an opium addict, or whether he is just lying or putting over an act. In part, also, what I know here is something that can be discussed in a court of law or by medical psychologists. My claim to have this knowledge may be rejected by them, wrongly, as bogus, or it may be accepted as veridical, when in fact it is bogus. In short, when I take up opium smoking and learn what it is like to be an opium smoker, what I learn is a lot about the expandable and describable experience of the smoker. Or, to put it differently and paradoxically, I do not learn anything more about it except what the scientific methods of the non-privileged observer are still too clumsy to discover for themselves. All, therefore, that happens when I become a privileged observer is that I give myself the opportunity of making certain observations for myself. I give myself the opportunity of making the same discriminations, etc., as the opium smoker, of learning to react to these as he does, and so of coming to "know what it is like to be an opium smoker".

What, however, we want to know about the Martian is quite other than this. It *must* be, because if it were not, there would be no point in distinguishing between "behaviour" and "experience" in our talk about him. The "experience" of the Martian would then be assimilable under "behaviour" in the way we have just suggested for the opium smoker. It is perfectly sensible to wonder what it would be like to be a Martian *if* we are thinking of one of us becoming a privileged observer. But clearly we cannot *only* be thinking of this because this supposition is not enough. In fact, it is not what we want at all. For, as we have seen, if I *were* to become a privileged observer, I could still only come to learn what it was like to be a Martian as I come to learn what it is like to be an opium smoker. I would still not have learnt what the Martian's "experience" was like in the sense in which we purport to be interested. The *same* puzzle, of course, can be raised about the opium smoker also. We can wonder what it would be like to be an opium smoker, in the *sort* of way in which we would remain dissatisfied with the knowledge that a privileged observer comes to possess. But it is easier to spot the sources of the puzzle here than in the case of the Martian. So when we feel the urge to say that "there is something more to be learnt about the Martian than his actual and possible responses" (*viz.*, "what his experience is like"), we feel this urge partly because we have overlooked the difference between saying: "I wonder what it would be like to be a Martian", and "I wonder what it would be like to be an opium smoker"—a difference that makes the former wonder pointless and the latter sensible.

(*b*) "*Knowing at first hand*".

But this still leaves us dissatisfied for various reasons. Consider one of them. "When I take up opium smoking, I do not only get the chance of making certain discriminations, etc., that otherwise would not be open to me. I also come to know at first hand, or become aware at first hand of an experience that I could not otherwise have known. When, therefore, I wonder what it would be like to be a Martian, I am wondering what it would be like to have first hand knowledge of the experience of a Martian. What I am aware of here is not the sort of thing that can be talked about at all. If it were, there would be no difference between hearing a description of it, and knowing it at first hand for oneself. But obviously there is a world of difference between the two—a difference that we recognise if we are not suffering from Left Wing perversity. And it is this

immediate experience that I am interested in when I wonder what it is like to be a Martian."

This objection is puzzling because it is so very compelling and yet hardly bears looking at. What is it "to know something at first hand"? When we say, for example, "I know at first hand what it is like to smoke opium", we are normally saying that other people need not tell me what it is like, because I know this already; that I could, if pressed, produce a lengthy description of it; that, if deliberately given some other drug I could tell the difference unaided, and, if asked how I told the difference, say: "This stuff hasn't the kick of opium" or something of the sort. And so on. But this is *not* the use of "know at first hand" in this objection. For here "to know at first hand" of the experience of the opium smoker and the Martian is to know something that other people *cannot* tell me about, that is not describable at all, and that is such as to make nonsense of the question: "How do you tell the difference between opium and the stuff you are smoking now?". Again, when we normally talk about "knowing at first hand", we are contrasting this with "knowing at second hand", *i.e.*, learning from someone else. But with what is "knowing at first hand of the experience of the Martian" to be contrasted? Not with "knowing at second hand", because this is logically impossible. Not with "knowing it from my own description", because this is also impossible. However, we now see that it is not contrastable with anything, because "to know the Martian's experience at first hand" is the only way in which I can know it at all. But then this objection simply has not given a use to the expression "to know at first hand". We think it has because we are mistakenly supposing that this expression is being used in the normal way in this objection. Similar difficulties break out when we look at *what* it is that we are supposed to know at first hand, and ask whether we can be mistaken about it, and so forth. Similar difficulties also break out for the other favourite expressions used, such as "immediate experience", "immediate awareness", "direct experience" and "direct apprehension". These expressions are given no use either, and because of this they have disfigured discussions about Behaviourism and the subject matter of psychology.[1] Then, because these terms do not contrast with anything, some of us fall into the trap and say: "Ah! we are obviously dealing with a unique and fundamental mode of cognition. Terms like 'immediate experience'

[1] For such a discussion see Carroll C. Pratt, *The Logic of Modern Psychology* (MacMillan, N.Y., 1939).

are confusing because we continually suppose them to function here as they do in ordinary speech. We had better, therefore, invent a special technical term to do the job—say 'enjoyment'." And then we *are* sunk in the traditional philosophical bog!

(c) "*The experience of the Martian*" *and* "*the red shape*".

But what impels us to produce this objection about knowing at first hand? What is its point? What impels us is the likeness between "the red shape" and "my experience" or "the experience of the Martian", and the point of the objection is to draw attention to this. A red shape presents a stimulus pattern that I react to immediately, in contrast with the surrogate reaction by means of symbols. My experience is like a structured series of such stimulus patterns, including those produced by my own responses, to which patterns I seem to react in the same sort of immediate way. We now identify the properties of the whole with the properties of a part, and suppose that "my experience" is just like "a red shape". We are assisted in this by the parallel talk we use about "a (the) red shape" and "an (the, my) experience". We talk about "noting a red shape" and "noting an experience at the time"; "attending to the red shape" and "attending to the experience"; "very conscious of a red shape" and "very conscious of my own experience at the time"; "laughing at the red shape" and "laughing at the experience". And so on. That is, both expressions function as objects of "awareness" verbs. Naturally, therefore, we are tempted to say: "I can know my experience at first hand". The usefulness of this is that it brings out how, for psychological purposes, "my experience" is like a series of non-surrogate reactions to a series of stimulus patterns; and how it is like the reactions of an organism that is only capable of reacting in a non-surrogate fashion to a series of stimulus patterns consisting of red shapes. This comparison of "my experience" with "a red shape" also helps us to understand why we resist the psychological move to talk about "experience" as reactions to stimuli. For if "my experience" is to function like "a red shape", then this move is like saying: "When you see a red shape, what you are doing is to see a mass of almost invisible red dots". To this the objection is that you are then not aware of a red shape at all. So we object to this move on the ground that it leaves out our experience altogether.

However, we do not *really* want to compare "an (my) experience" to "a red shape" at all. We do not really want it to function like a stimulus word. For if it were to function like

this, it would be sensible to ask the embarrassing question: "What receptors do you use to observe it?". Moreover, we can see the point of saying: "I know at first hand the experience I have when I know a red shape at first hand". But what is the point of saying: "I know at first hand the experience I have when I know my experience at first hand"? This is an odd statement in that the main clause is redundant, precisely because we are using "my experience" here to embrace everything that I know at first hand, *including* "my experience of my experience". Yet, when we are aware of a stimulus, we may or may not also be aware of our reaction to it, and hence of our experience when we react to it. Further, if "my experience" were like "a red shape" here, we should be able to talk about it in the same sort of way as we can talk about a red shape. But then the whole point of saying that "I know my experience at first hand" is lost, since "my experience" is now something describable and not just a "raw feel". Finally, this comparison with a red shape suggests that, when I say "I know my experience at first hand", all I am saying is: "I am reacting, or can react, in a non-surrogate fashion to a certain stimulus pattern, *viz.*, my experience". But, as we saw, this suggestion is the very one we resist as "leaving out my experience". Hence to treat "my experience" as a stimulus word or expression, like "a red shape", as the sort of thing that I can know at first hand, is to destroy the whole point of the distinction we want to draw between "experience" and "behaviour" when we wonder what it is like to be a Martian.

Incidentally, this should help to make it clear that we cannot use introspection to observe "experience", since this is not an observable something. It is not the case, therefore, that when an experimenter studies a subject he is observing the latter's behaviour, but that when he studies himself in the role of subject-observer, he is observing his "experience". In both cases the experimenter is responding to organisations of stimuli, with the difference that in the case of the subject they are produced by another person, but in the case of the subject-observer they are self-produced and the observation-response to them can only be made from a privileged position. Consequently, what an experimenter observes when he takes note of a subject X reacting is not nearly as different as we are apt to think from what he observes when he plays the role of the subject-observer himself.[1]

[1] In Ch. I of *Foundations of Psychology, op. cit.*, Professor Boring says that "consciousness is what you experience *immediately*". This comical

The conclusion, then, is that our wonder about the experience of the Martian does not require us to draw this distinction between " experience " and " behaviour ". Our difficulty about his experience is very like our difficulty about that of babies and animals. The diagnosis we have outlined for the former applies, I think, *mutatis mutandis* to the latter also. But while there is yet no such subject as the psychology of Martians, there is of babies and animals. These branches of psychology are closely beset by the philosophical difficulty about experience that I have been dealing with. The advantage of considering the Martian is that this is a much more difficult case, and one on which we are apt to fall back if we start off with infants and mice.

A difficult case: the robot.

Now what about robots? Is there any point in keeping the distinction between " experience " and " behaviour " in order to distinguish between robots and ourselves? It looks like it because we are inclined to say: " If a robot were to behave just like a person, it would still not have any sensations, or feelings ". And this seems to entail saying that we have experience (in the raw feel sense), and that the robot does not have it. But this will not do. For we mean, in part, by ' a robot ' that the thing in question has no sensations, etc., in the ordinary sense. That is, we normally use the word ' robot ' in such a way that while it can duplicate our *overt* behaviour, it cannot duplicate our internal or *covert* behaviour when, *e.g.*, you say " I'm having a funny sensation in my tummy ". But we are not aware of this when we are inclined to say: " If a robot were to behave just like a person, it would still not have any sensations ". When we say this, we seem to be talking simply about the overt behaviour of the robot. But we *want* to talk about its covert behaviour as well. It is only if we do this that the objection has any force. Yet, if we do so, we depart from the ordinary use of ' robot '. The first thing to note, therefore, is this. All that is entailed, on the ordinary use of ' robot ', is that while *we* can make the internal discriminations etc. required for us " to have a sensation ", the robot cannot. Obviously, it is not necessary to use the notion of " raw feel " to describe this difference. We are only tempted now to use this notion if we say " Ah, but ' to make a discrimination ', etc., is not identical

and pathogenic remark is the result of overlooking the differences between " consciousness " and stimulus words and expressions like " red shape ". " Consciousness " does not seem to be the sort of thing that we experience, or know immediately or directly.

with 'having a sensation'—it leaves out something". But this is an old objection by now, which we have already dealt with in principle, and which is, in any case, quite independent of puzzles about robots.

The second thing to note is how the unobserved departure from the ordinary usage of 'robot' is apt to muddle us and to make us overlook how we *do* use the word. If we found an alleged robot that behaved, overtly and covertly, just like a person as far as adjusting to stimuli like red shapes and loud noises was concerned, we would be in some doubt, and might say at least two different things. We might say (*a*): "This thing obviously has sensations, and is not really a robot at all, but some new sort of thing altogether—some new type of organism". That is, we might keep to the present use of 'robot' ('machine', etc.), stretch the use of 'organism' to cover it, and stick to our usual criterion of "having a sensation", *viz.*, manifesting the appropriate behaviour-readinesses, and covert and overt behaviour. However, we might say (*b*): "This thing can't really have sensations because we know it is a machine and not a living thing". That is, we might stretch the use of 'robot' (or 'machine') to cover this different case, and thereby, by implication, introduce a new criterion for "having a sensation". For a thing "to have a sensation" it must *now* not only exhibit the appropriate internal and external behaviour, but also be, and hence in other situations behave like, a living thing. If we say (*a*), then clearly robots give us no reason for retaining the distinction between "behaviour" and "experience". Likewise, if we say (*b*). Suppose we are asked: "If the robot hasn't any sensations at all, and yet behaves in respect of a red shape just as X does, what is the difference between them? Surely you have to say that Mr. X has a certain experience in addition to merely behaving?" Then the answer is: "No, we are not obliged to say this, since the criterion of 'having a sensation' has altered". To say "X has certain sensations when looking at a red shape" is not now *only* to say: "X exhibits appropriate internal and external behaviour in respect of it". It is also to say that X exhibits *other* behaviour characteristic of an organism. And *this* is the difference to which we point to distinguish between X and the robot. X's behaviour towards the red shape is part of the stream of behaviour of a living thing; the robot's is not. If we now construct a slide and start supposing the robot to be more and more like a living thing (*e.g.*, eating food, not oil, showing affective disturbances, and so on), then at various points on the slide different individuals will switch to saying (*a*)

and so giving it " sensations ". General agreement to say (*a*) would perhaps be obtained when we reach a machine that exhibited the robot-like analogue of reproduction, development and death.

If we overlook semantic points of this sort, we are apt to be confused and taken in by arguments like the one of Broad's so often quoted.[1] " However completely the behaviour of an external body answers to the behaviouristic tests for intelligence, it always remains a perfectly sensible question to ask: Has it really got a mind, or is it merely an automaton ? . . . Since the question can be raised, and is evidently not tautologous or self-contradictory, it is clear that when we ascribe a mind or a mental process to an external body, we do not mean simply that it behaves in certain characteristic ways." This argument is persuasive because (i) Broad is using " external body " (and, by implication, also " robot " and " machine ") in the ordinary sense which entails that it has no mind ; and (ii) he makes us concentrate unwittingly on the overt behaviour of the external body or robot. But if a robot were produced whose covert behaviour was also like ours, then the question : " Has it a mind ? " will cease to be sensible for those of us who take line (*a*) above and say : " This thing is a new sort of organism ". For to say that something is a sort of organism entails saying that it exhibits certain mental functions of some order, low or high. On the other hand, for those who take line (*b*) above, and say the thing is just a new sort of robot, the question : " Has it a mind " remains sensible but Broad's argument becomes irrelevant. For to these people the criterion of " having a sensation " or " mind " is not merely that the thing should satisfy certain behaviouristic tests, but that it should also be, and hence behave like, an organism. Consequently, the question : " Has it a mind ? " remains sensible, and has a negative answer. But now this argument is of no use to Broad. All it establishes is that by " mind " we do not mean " external bodies behaving in certain characteristic ways ". It does not help him to establish that by " mind " we do not mean " organisms behaving in certain characteristic ways ". But it is *this* question in which Behaviouristic psychologists are interested ; it is to them that Broad specifically addressed himself and for whom his argument is irrelevant.[2]

[1] See *The Mind and its Place in Nature*, Ch. XIV.

[2] Confusing talk on this topic, however, is not the monopoly of the philosophers. Boring and Hull have both argued that psychological subjects should be regarded as robots, and Boring has suggested substituting " robotology " for " psychology ". See Boring, *Amer. J. of Psych., op. cit.* ; and Hull, *Principles of Behaviour*, Ch. I.

Some other sources of the problem.

So far I have pointed to some of the causes of the philosophical difficulty we are in about "behaviour" and "experience". There are *many* others. Here are a few of the many.

1. "If, when I see a red shape, I am supposed to be behaving only and not experiencing anything, what is this stimulus to which I am reacting? If you say it is the physical energy or the light waves, then I don't react to these at all—I may know nothing about them. If, on the other hand, you say it is the red shape, then this red shape is not a physical stimulus, but a 'seen' or 'experienced' something. So I am not just behaving. I am experiencing something."

2. There are all the sentences where we use predicates of sensations, *e.g.*, "The sensation was intense", "It was a painful sensation". These sentences are used for all the sensory modalities and for all the respects in which "sensations" vary in quality, intensity, extensity, and duration. These sentences lead us to want to say that there are such things as mental states, processes and events with properties, and so lead us to resist noting how the experience we want to talk about has no properties at all.

3. There are all the sentences where we use "feeling" and "emotion" words and expressions in ways comparable to the ways we use "sensation" words and expressions.

4. There is the array of sentences where we use "conscious of", "aware of" and their variants.

5. There are the sentences where we say, *e.g.*, "I was ashamed of myself", or "I was acutely self-conscious at the time", or "That child is still charmingly unself-conscious".

All these sentences in 2 to 5 can be used to frame an indefinite number of specific objections of various sorts to the diagnosis offered—as I have done in 1. I shall not consider any more objections here. What I have said, therefore, is inevitably something of a hit or miss affair. If the sources which I have discussed are also the chief sources for any given individual, then what I have said may help him to become aware of, and acquire control over, the sources of the difficulty in the special form it takes with him. I shall venture the hypothesis that when an objection is raised, it will be obtained from some sources that I have not noted. Hence I suggest that when one is raised, it should not be looked on as an objection to a philosophical thesis, because I have not produced one—although misleading language in places, adopted for brevity, may convey this idea. I suggest, rather, that an objection be looked on and

treated in the *sort* of way I have tried to do above. In the course of doing this, the gaps in my diagnosis of this philosophical problem will be amply revealed.

The relevance of this account.

Let me summarise the bearing of all this on the problem that faces the physiologists and psychologists.

We noted the crucial difficulty that faces the physiologists. If their science is to give a complete account of what happens when a person, for example, sees something, this mental event or process of " seeing " is either reducible to, and so identical with, some neural events, or else it does not exist. Neither alternative is acceptable. Hence it cannot give a complete account. Now, if it is said that a simple reflex reaction, like the knee jerk, is just a matter of certain neural events or processes, and can be completely accounted for in neural terms, neither plain man nor physiologist resists this suggestion. But if it is said that " seeing " is just a set of neural events, no matter how complex, we all protest because we want to say that " seeing " is not just a matter of reacting, as the knee jerk was, but something else as well, which is now being left out. I have tried to point to some of the sources of this protest. If we appreciate them, we may then be readier to appreciate the futility (*a*) of saying: " But when I see something, all that is happening is that certain neural events (or processes) are taking place "; and (*b*) of adding: " This is false " (or " absurd " or some similar remark). It is futile to say (*a*) because the ordinary discourse of plain men and physiologists makes it patently false. This leaves them very uneasy about the proposed identification with nervous processes, and vulnerable to the usual objections against it. Their uneasiness becomes intolerable when they are trapped into discussing the question by means of the antithesis of " mental " and " material ", or " mental " and " neural ". For this use of " mental " is itself a product of the dualistic tradition in philosophy. Hence to argue for identity by means of the words " mental " and " material " is to use self-destructive weapons. But it is equally futile to say (*b*) " It is false (absurd) to identify ' seeing ' with any neural events ". For this suggests that it is quite all right to presuppose there are two sorts of events here anyway. But, if pressed, we *can* only defend this presupposition by falling back on " seeing " as a raw feel experience. I hope this is clear from what has already been said. When we do appreciate this, we also see the point of saying that mental events *are* identical with neural ones. But if the

" mental events " are the queer " raw feels " that we have discussed, then we also see that it is absurd to *try* to identify them with neural ones, because they are not the sorts of things that can be identified with anything else. They are not like the transmission of an electric current that can be identified with the passage of a nervous impulse. So even to *talk* about " seeing " etc., and " neural events " in the way that this traditional Adrian-cum-Ewing line [1] does talk about them will just produce intellectual confusion.

Similar remarks apply to the parallel difficulty that confronts psychologists. (i) If all that goes on, when X looks at a red shape, is that X is just discriminating, is in a state of behavioural readiness, etc., then he is not experiencing anything at all. But (ii) if he does experience something, then it is false to say that this experience is identical with his behaviour, etc. The first alternative is compelling because if *all* that happens is that Mr. X behaves, etc., then by our *ordinary* use of " behaviour " and " experience ", it is true to say: " X is not experiencing anything ". But this alternative is silly, because if we *were* to discover an X who was producing all the usual behaviour, internal and external, we would hesitate and want to say: " X is also experiencing something ". The objection to this (" But to say this is to go beyond our evidence ") can only be supported by *now* using " experience " in the unusual raw feel way. Alternative (ii) moves us because we normally use " experience " and " behaviour " as contrasts. But this alternative is also silly because we can only give it the force we want it to have by unwittingly restricting the use of the word " experience " to " raw feels ". Only by doing this can we go on defending the view that " experience " and " behaviour " are not identical; and this line of defence is hopeless. It is futile to try to rescue ourselves by admitting that " When, *e.g.*, I see something, all that is happening is that I am reacting, etc." ; and it is equally futile for anyone to retort: " But this is absurd (or false) ". These moves are futile for reasons similar to those that make the parallel moves futile for the physiologist.

It should be apparent by now that " experience " is a non-observable something to a physiologist or psychologist; and that, unlike concepts such as " homeostasis " or " the unconscious ", he has no need to use or postulate it. Contemporary science, in short, does not seem to require the notion of " experience ", and is getting to the brink of rejecting it, in effect, as " unreal " or

[1] For Dr. Ewing again, see MIND, Jan., 1949.

" non-existent ". If the relevant sciences go on developing in this direction, and if Western societies assimilate their work, than it is quite possible that the notion of " experience " will be generally discarded as delusive. If and when this happens, our present philosophical difficulties about it will disappear. But it is just because we are in conflict, and perhaps transition, about the notion that we cannot either accept or reject it at present without absurdity or falsehood. In these respects, the notion of " experience " can be shown to resemble an occult notion like " witchcraft " in a primitive community that is in the process of being acculturated to the West. Philosophical difficulties about " witchcraft " in such a community can be found and constructed that parallel in an uncanny way the difficulties confronting us about " experience ". So if we are puzzled by the question : " What does this notion of experience resemble ? ", we may find it useful to notice the likeness between the capacity of men to have experience, which we still accept, and the capacity of men to exhibit witchcraft, in which primitives still believe.[1]

Some recommendations about language.

If the confusion we are in at present about this whole question leads us to talk in foolish ways about some concepts in physiology and psychology, how should we talk instead ? Now *merely* to recommend that we talk in *this* way rather that *that* is not much use. Merely to recommend, for example, that we talk a Behaviourist jargon will only arouse opposition and do little, if anything, to treat the intellectual confusion we are all in. It is partly for this reason that the recommendations of Physicalists and the American Behaviourists have been of such little help. The place where recommendations are appropriate (when they are appropriate at all) is at the end of a diagnosis of a philosophical difficulty. For we can then better appreciate their value and their limitations. The few recommendations I shall offer briefly must be placed and read in this context.

The negative ones first. Do not contrast mental and material (or physical) events, or mental and neural (or physiological) events. Do not therefore talk about " gaps " between them, *e.g.*, the gap between the sticking of a pin into my finger and the appearance of a sensation of pain in my consciousness. Do not talk about intervening mental events in the chain of causation between the physical events in the sensory and in the motor

[1] Reference to a work like Evans-Pritchard's *Witchcraft, Oracles and Magic among the Azande* (Oxford 1937) makes this parallel easy to see and to work out.

pathways. Do not speak about consciousness coming in at certain points in the process of neural transmission. Do not use the double terminology that is so common, *e.g.*, " visual sensitivity " and " visual experience ", " intensity of response " and " intensity of experience ". For psychologists in particular, I suggest the following. Do not succumb to the current physiological talk about " sensations " and " feelings " because of the prestige of physiology as the science that is foundational to psychology. Accept physiological discoveries gratefully, but do not feel committed to using the terminology in which physiologists express them or talk about them. Do not, *e.g.*, take over Adrian-like talk, as S. Smith Steven does, and speak of the sense organs as " windows " that " start the messages along the nerves, the highways to the brain ", which " bare messages themselves . . . we call sensations ".[1] Do not use the double terminology indiscriminately—" responses " and " sensations ", " sensitivity " and " experience ", and so on—under the pretence that psychologists can safely ignore the question, or in the hope of impressing readers with your open-mindedness. Indiscriminate talk will just confuse, and open-mindedness just be exposed for the muddle that it is.

Some positive recommendations. Talk about neural events (or processes) and behaviour or conduct, or responses of an organism or person. Of, if you like, talk of physiological and psychological events (or processes). In this case the distinction is one of present convention and convenience only—between those events that are dealt with by people called neurologists or physiologists and those dealt with by psychologists. Get rid of the nuisance words like " sensation ", " experience ", and so on, by defining them provisionally by means of concepts like: stimulus patterns, a discrimination by an organism, a readiness to discriminate, a discrimination of a discrimination. If we must talk ' causally ', talk of one causal nexus that assists in providing " the basis " of the capacities and dispositions of the organism. When a neural impulse reaches the cortex, certain other neural events are produced, and these in turn contribute to produce the organism's total response that is its " seeing " or " recognising " or " having a pain ". Talk about the gap in our knowledge as lying between the neural discharge in the cortex and the organ-

[1] This ghastly quotation comes from Boring, Langfeld and Weld, *op. cit.* To those who know the work of Professor Stevens (of Harvard) and who appreciate his sensitivity to questions of method, it is all the more astonishing and unfortunate that this remark should be in a chapter that he prepared.

ism's total response—for this is an empirical gap. Say that when we can fill this gap, we will be able to give the physiological basis of the capacity of the organism, *e.g.*, to recognise something, and of the correlate of his recognition of it on any occasion. Say that when we can do this, we may be able to offer generally acceptable definitions of psychological concepts in physiological terms. Say that when we possess a definitive psychology and physiology, the relation between the two sciences is likely to be this: psychology will use "conduct" or "behaviour" notions and no "experience" ones; and these will be definable in physiological terms, so that psychology will be a sub-theory inside physiology.[1] Instead of including "experience" and "behaviour" within the subject matter of psychology, regard the subject matter as including "behaviour" only. But add the proviso that this view will cease to have any point as it becomes generally accepted and successfully eliminates the notion that contrasts at present with "behaviour".

Final remarks.

The conclusion, therefore, for Adrian and Tolman and Co. is that their worry that they have left out, or are in danger of leaving out, something is needless. Their fears are groundless that their sciences cannot in principle provide accounts that are complete. They *can* get rid of mental events and experience. But they get rid of them in a queer way—by realising it is just foolish to suppose that there are, or are not, any such things. When they have given us a definitive psychology and physiology, what they will have done is not an impossible and absurd correlation between physiological and mental events. What they will have done is to have given the physiological correlates of behaviour. This is quite a feasible thing to attempt; and there is nothing else to do.

This conclusion has a bearing on various philosophical questions. It makes obvious the foolishness of the traditional questions and answers about the relation between mind and matter, and mind and body. So the variants of Materialism, Epiphenomenalism, Interactionism and so forth are left behind as inadequate treatments of the problem involved. It shows, for example, in a new way just *what* an extraordinary

[1] It should be obvious that when I speak of "psychology" here I am speaking of "foundational" psychology alone. My remarks at this point, therefore, do not apply to social psychology and to subjects like the psychology of personality.

doctrine is Reductive Materialism, and how equally extraordinary is the usual refutation of it. This conclusion also reveals the queerness in a question like: How do I know I am conscious?; and suggests, as we have noted, that "my consciousness" is not the sort of thing I am immediately aware of. It also has a bearing on the "other minds" puzzle. For the question: "Do you feel pain when you squeak?" is bogus in so far as it is a question about a "raw feel"; but it is empirical and difficult in so far as it is a request for further information about your covert responses.

A point about method. I have already mentioned one respect in which my remarks in this paper may not be of help. There is another, even more obvious respect. I said at the outset that this paper would be an attempt to deal with a problem felt by physiologists and psychologists. But what I have done (in fact) is to treat the difficulty as *I* felt it by doing some "self-analysis" (to borrow Karen Horney's term). The paper represents a summarised record of some of that self-analysis. This will only be of service to physiologists and psychologists in so far as I have appreciated the problem as it confronts them. To obtain this appreciation I have tried to observe their behaviour in respect of it. But this is a very difficult thing to do well; and my effort at what social anthropologists would call "field work" was quite certainly not careful enough. So my appreciation of the psycho-physiologists' problem is likely to be defective. Consequently, my self-analysis may not be nearly as helpful to them as I should like it to be.