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A MATERIALIST THEORY  
OF THE MIND

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## I. PERCEPTION AS ACQUIRING OF BELIEF

It is clear that the biological function of perception is to give the organism information about the current state of its own body and its physical environment, information that will assist the organism in the conduct of life. This is a most important clue to the *nature* of perception. It leads us to the view that perception is nothing but the acquiring of true or false beliefs concerning the current state of the organism's body and environment. 'True belief', here, is meant to cover both knowledge and *mere* true belief. (In the previous chapter the attempt was made to define knowledge without recourse to any psychological concept except belief.) Veridical perception is the acquiring of true beliefs, sensory illusion the acquiring of false beliefs.

The beliefs involved must be conceived of as sub-verbal beliefs. Animals can perceive, sometimes, we believe, better than we can, but they lack words entirely. And we ourselves are often hard put to translate our perceptions into words. If we think of the wealth and subtlety of the information that we gain by our eyes, to take one example only, we see that much of it eludes the relatively coarse mesh of the net of language.

The word 'belief' is a stumbling-block. To talk of beliefs may seem to be to talk in a very sophisticated and self-conscious way, quite unsuited to such an unsophisticated thing as perception. Do animals have beliefs? It may seem a strange way to talk about them. But the difficulty is to find another word. 'Judgement' is even worse than 'belief'. A word like 'awareness' would be nearer the mark in some ways, but it has the most serious disadvantage that it is linguistically improper to speak of false awareness. Yet any theory of perception must cover both veridical perception and sensory illusion. Perhaps one could say that perception is a continuous 'mapping' of what is going on in our body or our environment, for mapping can be correct or incorrect. It is certainly useful to think of our sensory field at any one time as a partial and sometimes faulty map of our body and its environment. But to talk of mapping may be to err in an opposite way to talking of believing. It suggests that it is just a matter of our body and our environment registering upon, or making an impression upon, our minds. A map, after all, is just a physical

object which we have to use to tell us where things are. But perceptions are not like that. If they are maps, they are maps that essentially refer beyond themselves to the objects they claim to map. Unlike ordinary maps, perceptions have intentionality.

One useful alternative to the word 'belief' is the word 'information'. It has in fact already been employed in this section, and will be employed again in future. It has the advantage that we can then speak of sensory illusion as 'misinformation'. However, the word does have one misleading association. It is often natural to think of information or misinformation as something distinct from the true or false beliefs one acquires as a result of the information or misinformation. Spoken or written words are often naturally spoken of as information, and they are distinct from the beliefs which the words create in hearer or reader. But when perception is spoken of in this work as the acquiring of information, it must be clearly understood that no distinction at all is intended between the information and the beliefs to which it gives rise. Information and beliefs are identical. Given this warning, the term 'information' will often be convenient.

If perception is the acquiring of beliefs or information then clearly it must involve the possession of concepts. For to believe that A is B entails possessing the concepts of A and B. But since perception can occur in the total absence of the ability to speak, we are committed to the view that there can be concepts that involve no linguistic ability. More will be said about perceptual concepts in the next chapter.

I have spoken of perception as the acquiring of true or false beliefs about the *current* state of our body and environment. It may be objected that it is possible to see, in the literal sense of 'see', that somebody came in with muddy boots last night. However, such a case can always be regarded as a case of inference, even if quite unself-conscious inference, an inference based upon perception of some current state of the environment (the boot-marks). I acquire the belief that there is a certain muddy pattern of marks on the floor now, and this causes me to acquire the further belief that somebody came in with muddy boots last night. (See the discussion of inferring in the previous chapter.) It is significant that in such cases we speak only of seeing *that*. It would be improper to say we saw the person or the muddy boots.

If perceptions are acquisitions of beliefs, then the correspondence

or failure of correspondence of perceptions to physical reality is simply the correspondence or failure of correspondence of beliefs to the facts. And the intentionality of perception reduces to the intentionality of the beliefs acquired.

## II. THE ROLE OF THE SENSE-ORGANS

It is tempting to include a reference to the sense-organs: the eyes, ears, nose, etc., in the logical analysis of perception. That is to say, it is tempting to say that seeing is the acquiring of true or false beliefs as the causal result of the operation of the eyes, hearing is the acquiring of true or false beliefs as the causal result of the operation of the ears, and so on.

But the suggestion involves a number of difficulties. In the first place, it is difficult to say what is the organ of *touch*. Most of the body is tactually sensitive. Perhaps this difficulty can be met by saying that touch does not involve a special organ but rather a special procedure: objects coming into contact with the flesh. This procedure causes certain sorts of beliefs to be acquired, and we call such acquisitions of beliefs tactual perceptions.

In the second place, there is one form of perception where it does not seem possible to specify even such a procedure for acquiring beliefs. This is bodily perception. Where I perceive the motion or position of my limbs and body, or the heating up or cooling down of parts or the whole of my body, there is no process, and still less no organ, that I can point to from my ordinary knowledge as causally responsible for such perceptions. Of course, there are in fact mechanisms in the body which are involved in bodily perception, but only physiologists know anything about them. There is nothing we ordinarily say we perceive the motion of our limbs with.

In the third place, it is possible to have experiences resembling ordinary perceptions which do not involve stimulation of sense-organs, known or unknown. If the central nervous system is acted upon in various ways (for instance, by continuous drinking or by a probe being stuck in certain brain-areas), the subject may have visual or other sorts of hallucination without any stimulation of the sense-organs.

In the fourth place, even if we waive all these objections, it is

imaginable that we should have much the same perceptual experiences that we have now, even although we could discover nothing that we could identify as sense-organs. Again, we can imagine that stimulation of particular sense-organs might produce quite different perceptual experiences from those that are actually produced. Stimulation of the ears, for instance, might lead to what we now call visual experiences.

But even when all these points have been admitted, it still remains true that the sense-organs play a part in our concept of perception, or, perhaps it would be better to say, in our 'picture' of perception. Quite early in life we learn that the acquiring of certain very complex and idiosyncratic patterns of information about the current state of the world is bound up with the operation of certain organs or combination of organs. In a loose sense of the word 'presuppose' our concept of perception comes to presuppose such knowledge. If we started to acquire beliefs about the current state of our body and environment in a way that did not conform to established patterns, we might start talking of a new sense, or even of a new faculty different from sense-perception.

It is this knowledge that the acquiring of certain patterns of information about the environment is bound up with the operation of certain organs that makes us talk, for example, of *visual* hallucinations even when no stimulation of the eyes is involved. Macbeth, while considering the hypothesis that the dagger is a mere hallucination, says 'It is the bloody business which informs thus to *mine eyes*' in the very process of putting forward the suggestion that it is *not* any stimulation of his eyes that is responsible! His way of talking strikes us as natural. The pattern of misinformation involved is so like the patterns of true and false belief actually acquired as a result of the stimulation of the eyes that it is easy to think of it as caused by stimulation of the eyes.

We can therefore say, if we like, that perception is the acquiring of true or false beliefs about the current state of our body and environment *by means of the senses*. But we must remember that the final phrase, although helpful, has not a full right to appear in a definition.

What is our concept of a sense-organ? One mark of a sense-organ is obvious: it is a portion of our body which when stimulated produces a characteristic range of perceptions. A further

important mark has been pointed out by Anthony Kenny in his *Action, Emotion, and Will* (p. 57). It is a portion of our body which we habitually move at will with the object of perceiving what is going on in our body and environment. The two criteria seem to be jointly necessary and sufficient for calling something a sense-organ.

The receptors involved in bodily perception fulfil the first criterion for being sense-organs, but not the second. In this work, however, it will sometimes be convenient to talk about the 'stimulation of the sense-organs' in contexts where bodily perception is included. In that case we will be using a relaxed test for 'sense-organ' where only the first criterion is required.

The second criterion has the interesting consequence that not all perceptions can arise as a result of the use (as opposed to the mere stimulation) of our sense-organs. We saw in Chapter 7 that the operation of the will is logically bound up with the occurrence of perceptions acting as 'information' which suitably modify the direction of the causal influence of the will. Now this entails that if we are to move our sense-organs at will we must be able to become perceptually aware of what happens to them during the time that they are being moved. If this perceptual awareness is gained as a result of the use, as opposed to the mere stimulation, of a sense-organ we are faced with an incipient vicious infinite regress. So there must be some perceptions that do not arise as the result of the use of the sense-organs.

This result consorts well with, although it does not actually entail, the point that there are no organs of bodily perception in the *full* sense of the word 'organ'. For normally, at any rate, we become aware of a change in the state of our sense-organs by bodily perception. We should therefore expect that there was no organ we use when we come to have bodily perceptions themselves.

III. BELIEF IS DISPOSITIONAL, BUT PERCEPTION IS AN EVENT

To say that A believes *p* does not entail that there is anything going on in A's mind, or that A is engaged in any behaviour, which could be called a manifestation of A's belief. It makes sense to say that A believes *p*, but that A is asleep, or unconscious. It is

true that there must be some difference in A's state of mind if he believes  $p$  from his state of mind if he does not believe  $p$ . But we need not know what that difference of state is, any more than we need know what is the difference in state between brittle glass and glass that is not brittle. Belief is a dispositional state of mind which endures for a greater or lesser length of time, and that may or may not manifest itself (either in consciousness or in behaviour) during that time. But perceptions are definite events that take place at definite instants and are then over. How, then, can perceptions be beliefs?

The answer is that perceptions are not beliefs, and so not dispositional states, because they are *acquirings* of belief. The acquiring of a dispositional state is not a state, nor a process, but an event, in the sense of 'event' explained at the beginning of Part Two (Ch. 7, Sect. 1). If a glass becomes brittle at  $t_1$ , that is an event even although brittleness is a dispositional state.

Now perception is an event, in this sense of the word 'event'. It is not a process which happens to occupy a very short stretch of time (an event in another sense of the word). Up to a certain moment the perceiver has not yet perceived a certain state of affairs, from that moment on he has perceived it. This we interpret as meaning that up to a certain moment the subject has not yet acquired a certain belief, and that after that moment he has acquired it.

We owe the recognition that perception is an event to Gilbert Ryle. He put the point, rather unhappily as we shall see in a moment, by saying that verbs of perception are 'achievement-words'. His view is sometimes attacked by pointing out that we can perceive an unchanging scene for a period of time. To espy a robin may be an achievement, but where, it is asked, is the achievement involved in going on staring at the robin? However, if we think of perception as the acquiring of beliefs, and if we remember that we cannot look at a robin without time passing, this objection is easily met. At  $t_1$  we acquire the information that the robin is there at  $t_1$ . At  $t_2$  we acquire the information that the robin is still there at  $t_2$ . This is new, even if monotonous, information. And so for the whole stretch of time that we are looking at the robin.

It may still be objected that looking at a robin is a continuous performance, quite unlike spotting one. However, some achieve-

ments are continuous. If I hold a heavy weight aloft for some time, this is a continuous performance which is also a continuous achievement: keeping the weight there. Each new instant is, in a way, a new achievement. Looking at the robin is also a continuous achievement, continually yielding new, although monotonous, information.

But to talk of verbs of perception as 'achievement-words' is to invite us to conflate the notion that perception is an event with no less than three other notions.

In the first place, an achievement is ordinarily thought of as the outcome of some train of purposive activity. Now although many perceptions are the outcome of trains of purposive activity, in particular trains of activity involving the use, as opposed to the mere stimulation, of sense-organs, this is not the case with all perception. Some perceptions simply occur, without our having done anything to bring them about.

In the second place, to talk of achievement implies that what is brought about, or comes about, is some sort of *success*. Now we do normally use the phrase 'perceive that' and its determinates 'see that', 'hear that', etc., to imply that the perception reported is veridical. If I perceive that  $x$  is  $y$ , then indeed  $x$  is  $y$ . We might call this the 'success-grammar' of these phrases. So to perceive that  $x$  is  $y$  might be called an achievement, even if it is not the outcome of a train of purposive activity, because it is the coming to be of a success. But although all perceptions are events, that is, they are the coming to be of states, they are not all the coming to be of *success*-states. For some perceptions are illusory. When we perceive, we do not always 'perceive that . . .'

This point about the 'success-grammar' of 'perceive that' is in turn easily confused with another point. When verbs of perception are followed by the name of an object, process or event (as opposed to a 'that' clause) they normally have what we might call 'existence-grammar'. If A is said to see a bush, then there must be a bush to be seen. This is *not* the point about 'success-grammar' because to say that A sees a bush does not entail that his perception is veridical. A may see the bush, but quite fail to see that it is a bush. (In passing, it may be noted that not *all* perceptions logically imply the existence of something perceived. In hallucinatory perception there need be no existent object that can be said to be perceived.) This feature of the grammar of verbs of perception

is easily, but mistakenly, assimilated to the notion of achievement or success.

In view of these ambiguities we do best not to say that verbs of perception are 'achievement-words'. But it is important to see that all perceptions, of whatever sort, are *events*. These events, we have said, are acquirings of true or false beliefs.

IV. PERCEPTION WITHOUT BELIEF

But there are cases where perception occurs, but there is no acquiring of true or false beliefs.

In the first place, as has often been pointed out, it is possible to have perceptions that do not correspond to physical reality yet quite fail to be deceived by them, that is, quite fail to acquire false beliefs. In the case of visual perception, this is a familiar experience. When we look into a mirror, the visual appearance that we are presented with is that of a *mirror-image* behind the glass. Yet, whatever may be the case for anybody unfamiliar with mirrors, mirror-images do not normally deceive us.

The same thing can happen, although it is rarer, in the case of veridical perception. If I am told that the conditions under which I am viewing a certain pond are such that, although it is in fact round, it looks elliptical to me, then I may believe it is round although it looks elliptical. It may nevertheless be the case that viewing conditions are perfectly normal, and the pond really is elliptical. Here we have veridical perception, but no acquiring of true belief.

In the second place, there are cases where we cannot speak of *acquiring* true or false belief because we already have that true or false belief. Here the normal cases are those involving veridical perception. Thus, if I am looking at a red book, I may know with perfect certainty that it will continue to be red in the next instant. So when my eyes still rest upon the book during that instant, I cannot be said to acquire the true belief that it is now red, because I already knew it would be red during that instant.

It is possible, although less common, to have the same sort of thing occur in the case of sensory illusion. If a pond looks to me to be elliptical, and I believe it to be elliptical, although in fact it is not, I may be perfectly certain that it will be elliptical the next instant. And if I look at the pond at that instant, I cannot be said

to acquire a false belief because I already falsely believed that it would be elliptical during that instant.

The first set of cases may be called 'perception without belief', the second 'perception without acquiring of belief'.

All these cases seem to show that we ought to make a distinction between the beliefs that we acquire in perception, and the perceptual experience on which these beliefs are based.

How is this perceptual experience to be conceived? Suppose I have the perceptions that we associate with looking at a red ball. It is clear that I might have had exactly the same perceptions without there being any red ball in physical reality. When we reflect on this point it is very tempting to say that what is involved is some relationship between my mind and a non-physical red item: a sense-impression or sense-datum. Now it is clear that if there are such items involved in perception, then it is false that perception is simply a state of the person apt for the bringing about of certain physical behaviour or a state of the person apt to be brought about by certain physical stimuli. The 'Causal' analysis of the concept of perception would be false. We must therefore give an account of perception, and in particular of 'perception without belief' and 'perception without acquiring of belief', which does not involve non-physical sensory items.

One way to do this would be to admit the notion of perceptual experience as something quite distinct from the acquiring of beliefs about the environment, but go on to give an account of perceptual experience that was compatible with a Causal analysis of all the mental concepts. I have been unable to see how this can be done, and so I will attempt to give an account of perception in terms of the acquiring of beliefs.

But before this task is attempted, those who accept the existence of sensory items may fairly demand that cause be shown why their intuitively plausible view should be rejected. What justification is there for proposing elaborate analyses where a straightforward and simple account in terms of sensory items is available?

In the first place, as has been shown again and again, the view that all perceptual acquiring of belief is based upon some relationship that the mind has to non-physical sensory items leads to one of two very unsatisfactory alternatives. In the Representative theory, the mind is confined to non-inferential knowledge of its own sensory items, and has to make an inference to the existence

of physical things. The Phenomenalist alternative, which gives an account of physical reality as nothing but an elaborate construction out of the sensory items themselves, is even less satisfactory.

Some modern philosophers, aware of these difficulties, have tried to reduce non-physical sensory items to mere phenomenological facts, mere accompaniments to our acquiring beliefs about the current state of our body and its physical environment. Yet surely this is a thoroughly artificial view? If there are non-physical sensory items, they surely could not stand in this quite external relation to our perceptual beliefs. If one espouses sensory items at all, does one not want to say that we believe there is a red ball before us *because* there is a certain non-physical item in a certain relation to our mind?

These objections to the postulation of sensory items are rather general. So now let us consider a much more specific difficulty. It is the paradox about the non-transitivity of the relation 'exact similarity in a given respect' with regard to the alleged sensory items.

If A is exactly similar to B in respect X, and B is exactly similar to C in respect X, then it follows of logical necessity, that A is exactly similar to C in respect X. 'Exact similarity in a particular respect' is necessarily a transitive relation. Now suppose that we have three samples of cloth, A, B and C, which are exactly alike except that they differ very slightly in colour. Suppose further, however, that A and B are *perceptually* completely indistinguishable in respect of colour, and B and C are *perceptually* completely indistinguishable in respect of colour. Suppose, however, that A and C can be perceptually distinguished from each other in this respect.

Now consider the situation if we hold a 'sensory item' view of perception. If the pieces of cloth A and B are perceptually indistinguishable in colour, it will seem to follow that the two sensory items  $A_1$  and  $B_1$  that we have when we look at the two pieces *actually are identical in colour*. For the sensory items are what are supposed to make a perception the perception it is, and here, by hypothesis, the *perceptions* are identical. In the same way  $B_1$  and  $C_1$  will be sensory items that are identical in colour. Yet, by hypothesis, sensory items  $A_1$  and  $C_1$  are not identical in colour! There are two ways in which a defender of sensory items might try to deal with this paradox. In the first place he might take the

heroic course adopted by Bertrand Russell, and say that this only shows that exact similarity in a certain respect is not necessarily a transitive relation. I think this is a somewhat staggering defence. It is nearly as bad as if we had demonstrated to a philosopher that there was a contradiction in his argument, and he had asked, 'What is so wrong about a contradiction?' If it is not obvious that exact similarity in a certain respect is transitive, what is obvious?

A more hopeful line of escape is open if the upholder of sensory items is prepared to abandon the view that we have incorrigible knowledge of the nature of the items at the time of having them. He can then say that in the case described it cannot really be true that sensory items  $A_1$  and  $B_1$  are identical in colour, so are  $B_1$  and  $C_1$ , but  $A_1$  and  $C_1$  are not identical in colour. We must have made an error concerning the nature of our perceptions at some point, and so made an error in the nature of the sensory item present.

But although this way of escape is not logically absurd as Russell's suggestion seems to be, it is nevertheless most implausible. The phenomenological facts seem clear: piece of cloth A looks to be exactly the same colour as piece of cloth B, which looks to be exactly the same colour as piece of cloth C. But A looks to be a slightly different colour from C. There seems to be no reason to suggest that any phenomenological error has occurred, except the fact that the case clashes with a certain theory of the nature of perception. It seems rational to back the case against the theory. After all, those who support the analysis of perception as involving sensory items, regularly allege that it is their view, and their view alone, that does phenomenological justice to the perceptual facts. It will be ironic if they, faced with a difficult case, turn round and assert that there is a phenomenological error involved in the case!

It seems, then, that the defender of sensory items has no easy escape from this paradoxical case involving the apparent non-transitivity of the relation of 'exact similarity in a certain respect' in the case of sensory items. We shall see shortly that an analysis in terms of belief deals with this case with the utmost ease.

A second difficulty for an analysis of perception as involving non-physical sensory items is provided by the indeterminacy of perceptions. The classical case is that of the speckled hen. I may be able to see that it has quite a number of speckles, but unable



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objects specially postulated to do phenomenological justice to perception are now credited with characteristics that lie quite outside perceptual awareness. The theory is now postulating (i) speckled physical surfaces with perfectly determinate characteristics; (ii) speckled sensory items with perfectly determinate characteristics; (iii) indeterminate awareness of the speckled sensory items. But have not items (ii) become redundant? Why not simply postulate the speckled physical surfaces and indeterminate awareness (perception) of those surfaces? It is hard to see that the sensory items are now doing any work in the theory.

We shall see shortly that, by contrast, an analysis of perception in terms of the acquiring of belief accounts for the indeterminacy of perception with the greatest ease.

Now I do not claim that these difficulties for the analysis of perception as involving sensory items are quite conclusive. But they do show that the theory is involved in strange paradoxes. The first move in the analysis may seem simple and obvious, but the consequences are far from simple or obvious. Since this is so, the attempt we are about to embark on of explaining cases of 'perception without belief' and 'perception without the acquiring of belief' in terms of those cases where belief is acquired cannot be rejected out of hand as a quite artificial manoeuvre. It will emerge, incidentally, that our own analysis does not reject the notion that perception involves the having of sense-impressions. All it rejects is the notion that sense-impressions are perceived items or objects.

We shall now attempt a positive account of 'perception without belief'.

In the first place, in cases where such perceptions occur there may still be an inclination to 'believe our senses'. If a thing looks to be a certain way, although we know on independent grounds that it cannot actually be that way, we may still half-believe, or be inclined to believe, that it is as it looks. And this inclination to believe can persist even when we clearly recognize that the inclination is irrational. What is an inclination to believe? I think it is nothing but a belief that is held in check by a stronger belief. We acquire certain beliefs about the world by means of our senses, but these beliefs are held in check by stronger beliefs that we already possess. So there is nothing here that is recalcitrant to an analysis of perception in terms of the acquiring of beliefs.

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to see exactly how many speckles it has. The hen has a definite number of speckles, but the perception is a perception of an indeterminate number of speckles. However, this indeterminacy is present in perception generally, perhaps in all perception. For instance, when I see or feel that one object is larger than another, I do not perceive exactly how much larger the first object is. The first object's size bears a perfectly definite relation to the second object's size, but the perception does not yield that definite relation. It yields something much less determinate. What is being referred to here is not simply what can be verbalized in our perceptions. If we completely abstract from the way we verbally describe our perceptions, they still remain indeterminate.

Now the difficulty that this indeterminacy of perception creates for a theory of sensory items is that it seems to imply that the items will have to be indeterminate in nature. The non-physical item that exists when we perceive the physical speckled hen will have to have an indeterminate number of speckles. Again, of the non-physical items that exist when we perceive that one physical object is larger than the other, one will have to be larger than the other without being any determinate amount larger. And how can any object be indeterminately larger than another?

Once again, there are two lines of escape available to the defender of sensory items. In the first place, he may argue that, although in the physical sphere to be is to be perfectly determinate in character, this rule does not hold for non-physical sensory items. Among sensory items, there can be speckled surfaces with a non-definite number of speckles, or one item can be larger than another without being any definite amount larger, and so on.

This reply seems to have something of the same character as Russell's reply to the difficulty concerning the transitivity of 'exact similarity in a certain respect'. It simply proposes to suspend the rules for objects in the case of mental objects. It asserts that in the sphere of mental objects there can be determinables without determinates. Against this no more can be said except that it is obvious that to be is to be determinate.

The alternative reply would be to say that the sensory items do have perfectly determinate characteristics, but that we are only aware of something less. The sensory item has a perfectly definite number of speckles, but we are only aware that it has a large number of speckles. But this has the paradoxical consequence that

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But, it will be objected, there are plenty of cases where 'perception without belief' occurs and no inclination to believe is acquired. One case already mentioned is the perceptions normally involved in looking at a mirror.

Nevertheless, we may reply, in such cases of perception without belief and even without inclination to believe, it is possible to formulate a true counter-factual statement of the form 'But for the fact that the perceiver had other, independent, beliefs about the world, he would have acquired certain beliefs—the beliefs corresponding to the content of his perception.' We do not believe that our mirror-double stands before us *only* because we have a great deal of other knowledge about the world which contradicts the belief that there is anything like the object we seem to see behind the surface of the glass. When our vision blurs, it is *only* because of our knowledge of the ways of the world that we do not acquire the belief that our environment is actually becoming misty and that the outlines of objects are actually beginning to waver. And so on for other cases of 'perception without belief'.

It is to be noticed here that only in a relatively small number of cases are we actually moved to *assert* such counter-factual statements. We might actually say, among high mountains: 'If I had not been told of the effects of a clear and rarefied atmosphere I should have believed the mountain was quite neat.' The corresponding remark about a mirror-image will not be made in ordinary contexts. However, this seems to be of little importance. The situations in which a certain remark would be true form a much wider class than the situations in which the remark would be natural or called-for. We actually *assert* such counter-factual statements in cases where we think it was a relatively near thing that we were not deceived. But such counter-factual statements might still be true in cases where there was absolutely no risk of deception, even if there was no point in asserting them in the course of ordinary chat.

Now, in Chapter 6, we have argued for what we called a 'Realist' as opposed to a 'Phenomenalist' account of dispositions. This means that we are committed to saying that, if up to  $T_1$  a certain counter-factual statement is not true of A, but after  $T_1$  it is true, then some actual event took place at  $T_1$ . We may not know the nature of this event, but we know that such an event must have occurred. We have also argued that ordinary perception is

the acquiring of a belief, which is a mental event as opposed to a process or a state. In cases of 'perception without belief', we can now argue, an event still occurs in our mind, an event which can be described as one that would be the acquiring of belief but for the existence of other, contrary, beliefs that we already hold. The event might perhaps be called the acquiring of a *potential belief*. We come to be in a certain state which would be a belief-state but for the inhibiting effect of other, contrary, beliefs. In this way, perception without belief or inclination to believe might be fitted into our analysis. Introspective awareness of such perception would be awareness of the acquiring of such potential beliefs.

But dissatisfaction may remain. It may be objected that it is at best a contingent fact of psychology that 'perception without belief' is an event that would be the acquiring of belief but for the possession of other, independent, beliefs. We can quite well imagine the occurrence of perceptions that involve no acquiring of belief at all, even although contrary beliefs about the world are quite absent. Now if this is so, the objection goes on, it does not pertain to the essence of perceptual experiences that they involve either belief or even 'potential belief'. So perception is something more than our analysis allows.

In answer to this I say that, if perceptions did occur which were not even the acquiring of potential beliefs, we could only describe such perceptions by reference to the central cases where beliefs are acquired. They would be events *like* the acquiring of beliefs or potential beliefs about the world. What is the force of 'like' here? We have already discussed the problem in connection with wants and wishes (Ch. 7, Sect. IX). It will be remembered that we compared purposes that we actually act from to those central cases of perception where true or false beliefs are acquired. Desires which press towards action, but which we do not act from, were compared to perceptions which involve the acquiring of inclinations to believe held in check by stronger contrary beliefs. Then we argued that wants and wishes which do not press towards any fulfilling action were nevertheless potentially action-producing. If circumstances were to occur that seemed to the agent to give some promise of fulfilling the want or wish by the action of the agent, there would be at least some pressure in the agent's mind to take such action. These we may compare to those

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inclination, to believe, may be conceived of as the acquiring of information which we have some tendency, but no more than some tendency, to accept. A perception which involves mere potential belief may be conceived of as the acquiring of information that, because of other information that we already possess, we completely discount. An 'idle' perception may be conceived of as information that is completely disregarded, but, incredibly, not because of any other information that we already possess. 'Perception without the acquiring of belief' may be conceived of as a case where the information received simply duplicates information that is already at our disposal.

It must now be shown that our account of perception can deal with the paradoxes about the non-transitivity of exact similarity in a given respect with respect to perceptions, and with the indeterminacy of perceptions.

Consider first the problem about similarity. Looking at samples of cloth A and B, I acquire the belief that they are the same colour. Looking at B and C, I acquire the same belief. But looking at A and C I acquire the belief that they are slightly different in colour. This forces me to realize that A and B cannot really be exactly the same colour, and neither can B and C. These two beliefs become mere 'potential beliefs'. There is no difficulty at all here, no question of the rules for the transitivity of exact similarity in a certain respect having broken down. The reason why we prefer the third perception to the first two is that we have discovered by experience that where we seem to perceive small differences between things the differences are usually real, but that where we can perceive no difference there often are small unperceived differences all the same. So we acquire the belief that all three colour-samples differ slightly in colour.

Again, there is nothing puzzling about beliefs being indeterminate. I may believe, and believe truly, that Jupiter has a number of satellites, yet not have any belief about their exact number. My belief is indeterminate in that respect. Equally, when I turn my eyes towards the speckled hen, I acquire the belief that it has a great number of speckles, but I do not acquire any belief that it has, say, ninety-three speckles. My belief is indeterminate in that respect. When I compare two objects in size by means of the hand or the eye, I acquire the belief that one is larger than the

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cases of 'perception without belief' which are acquisitions of 'potential beliefs'.

Finally we called attention to the possibility that there might be 'idle' wants and wishes which neither pressed towards action nor were even potentially pressures towards action. Such mental states, we said, might be described as *like* real wants and wishes although lacking even the potential power to initiate action. In order to understand the force of 'like' here an imaginary case was envisaged. In this case a man had the power to say truly when he tasted a liquid, on the basis of no evidence at all, that it 'contained poison, but in insufficient quantity to poison'. It was then suggested that introspective apprehension of the likeness of 'idle' and ordinary, real, wants and wishes was parallel to the taster's apprehension of the likeness between this liquid and genuinely poisonous liquid.

Our account of the nature of perception without even the acquiring of potential belief should now be clear. It is exactly parallel to the account of 'idle' wants and wishes. The event involved is of the belief-acquiring sort, but, like the poison is sufficiently concentrated to poison, not even potential belief is acquired. It is an 'idle' perception.

If our account of 'perception without belief' has been correct, it will be easy to give an account of 'perception without acquiring of belief'. It is clear that in all normal cases here a true counterfactual will hold. If I had not already known 'that the book would be red at  $T_2$ ', then I would have acquired the belief 'that the book was red at  $T_2$ '. The event is one that would have been the acquiring of belief if belief had not already been acquired. Like the case where we discover good reasons for what we already know, the perception is like a seal stamped on wax that already bears the impression of that seal. Nothing further is done, because the seal simply fits into an imprint already made. Information is duplicated. And if it is said that it is imaginable that in some cases this counterfactual may not hold true of the perceptual event, then it is an 'idle' perception, and we can give an account of it like that given in the previous paragraph.

In considering 'perception without belief' and 'perception without the acquiring of belief' it is particularly helpful to think of perception as the acquiring of true or false information. A perception which involves an inclination, but no more than an

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other. I do not acquire any belief about their exact proportion. My belief is indeterminate in that respect.

It seems, then, that when we are introspectively aware of our perceptions, we are aware of a stream of mental events: acquisitions of beliefs about the current state of the world, or events which resemble such acquisitions. Perception is a flow of information, a flow that goes on the whole time that we are not completely unconscious. Perceptual *experiences*, as opposed to mere perception, is simply this flow in so far as we are conscious of it, that is to say, are introspectively aware of it. The content of our perceptions, which so many philosophers want to turn into a non-physical object, is simply the content of the beliefs involved.

Our perceptions, then, are not the basis for our perceptual judgements, nor are they a mere phenomenological accompaniment of our perceptual judgements. They are simply the acquisitions of these judgements themselves. Our perceptions do not stand between our mind and physical reality, because they *are* our apprehensions of that reality.

It may be objected that ordinary discourse provides evidence for saying that we treat our perceptions as evidence or grounds on which we base conclusions about the physical world. 'How do you know that there is a mouse in the cupboard?' 'I saw it just then.' Here I seem to be appealing to my visual data to support a judgement about the contents of the cupboard.

However, this dialogue can be understood quite differently, and in a way compatible with our analysis. In saying I *saw* the mouse I am (besides begging the question by using the word 'see', thus assuming the mouse was there) indicating that I acquired the belief that there was a mouse in the cupboard *by using my eyes*. Now it is a known fact that beliefs of that sort acquired as a causal result of the use of the eyes are pretty reliable beliefs. So I have provided my questioner with a reason for believing that there was a mouse in the cupboard. The position is the same as that of the man who estimates a distance by eye, and then defends his claim to knowledge of the distance by pointing out that he regularly gets such estimates right. The only difference is that the ability to gather reasonably reliable information about mice by using the eyes, as in the first case, is an almost universal ability.

V. PERCEIVING THINGS AND PERCEIVING THAT

Verbs of perception take two sorts of accusative. Sometimes we speak of perceiving things, events, or processes: seeing a horse, for instance. At other times we speak of perceiving that something is the case: seeing that there is a horse before us, for instance.

Now the second idiom fits in very well with the analysis of perception as the acquiring of beliefs. To say A sees that there is a horse before him can be quite plausibly construed as asserting that A, as a result of the stimulation of his eyes, acquires the (sub-verbal) belief that there is a horse before him. It is true that to speak of 'seeing that' carries the further implication that there actually is a horse before him. 'Seeing that' has 'success-grammar'. But this only means that in speaking of 'seeing that' it is entailed that the belief acquired is *true*. This entailment could be cancelled by saying something like 'A sees, or thinks he sees, that there is a horse before him.'

But the first idiom, where we speak of perceiving things, events or processes, may seem to present problems. Suppose it is said that A perceives a horse. This implies that there is a horse there to be perceived. Phrases of the form 'perceives an x' have 'existence-grammar'. But the idiom does not signal a cognitive success on A's part, as in the case of 'perceiving *that* . . .'. For there is no contradiction in saying that A perceives a horse, but does not perceive that it is a horse.

Indeed, it would not be going too far to say that philosophical accounts of perception may be classified according to whether they seek guidance from the one or the other sort of idiom. Corresponding to talk of perceiving things we have what might be called the 'searchlight' view of perception. According to this view, perception is an act that lights up for the perceiver a particular finite portion of the world, or, at any rate, certain aspects of a portion of the world. Perception is a two-term relation holding between the mind and a portion of physical reality. It is this view that it is natural to call a 'Direct Realist' theory of perception, and I now think that I said something potentially misleading in *Perception and the Physical World* when I spoke of my own theory as a form of Direct Realism. In the subjectivist form of the 'searchlight' view the beams reach no further than our own sense-

impressions, yielding either a Representationalist or a Phenomenalist theory. It is this subjectivist form of the 'searchlight' view that characteristically takes sense-impressions to be non-physical objects. It may be remarked, finally, that Russell's distinction between 'knowledge by description', on the one hand, and 'acquaintance' which is below all descriptive knowledge, on the other, is a distinction drawn under the influence of the 'searchlight' model.

Corresponding to talk of perceiving that something is the case we have what may be called propositional or 'information-flow' views of perception, of which the view being developed in this chapter is a specimen. This view agrees with Direct Realism in being a two-term theory: there is simply the belief and the physical situation that corresponds, or fails to correspond, to the belief.

Now since there are these two sorts of idiom, each associated with a particular picture of the nature of perception, I will here give an account of talk of perceiving things. This will remove any suspicion that an 'information-flow' account of perception cannot explain the other idiom.

When it is said that somebody perceives something, then the mental event that takes place is simply the acquiring of information and misinformation about the environment, information or misinformation that may be 'discounted', for one reason or another, by the perceiving subject. But the peculiarity of the idiom 'A perceives x' is that to speak in this way does not tell us exactly what the information or misinformation is. The idiom tells us that it is information or misinformation about x that is acquired but it tells us nothing more. To say that A sees a bush is compatible with saying that he acquires the false belief that the object before him is a bear.

Now, it is only to be expected that there should be such an idiom. For although to talk of 'perceiving that . . .' (or 'seeming to perceive that . . .') is a far more exact way of speaking, its very exactness makes it a hindrance on many occasions. Stimulation of the senses is constantly giving us a vast flood of information (and misinformation) about our environment, far more than we could ever hope to verbalize. What is more, this information varies from person to person even when their senses are trained upon numerically the same object. (Their experience, their inter-

ests, their sensory powers, their location and their posture may all be different; and this will normally mean that they acquire different information.) Under these circumstances, the non-committal nature of the idiom whereby we speak of perceiving things or events or processes is extraordinarily useful to us. It bridges the gap between one man's perception and the next's. If there is to be effective communication between person and person about their perceptions, there must be idioms to range over this vast mass of idiosyncratic information without attempting to be very specific. So we speak of perceiving things.

At this stage, however, it must be recognized that the account given so far of the perception of things is too simple. If A is truly said to be perceiving x this does not simply imply that A's perceptions include information or misinformation about x. It is also implied that x is the cause of these perceptions. We will consider this point in the next section.

## VI. PERCEPTION AND CAUSALITY

If A is said to perceive an x, then it is entailed that x is the cause of A's perceptions, whatever these are.

Consider the following case. I have visual perceptions as of an orange before me. Suppose also there really is an orange before me, corresponding exactly to my visual perceptions. Does this entail that I am seeing the orange? If the question whether I can be said to be seeing something depends solely upon the content of my perception, this should be the most favourable case. But in fact it is still at least logically possible that I am not seeing the orange. For it is logically possible that I am having those perceptions but not as a result of the action of the orange on my eyes. (My brain was being probed in just the right way.) And if this possibility were fulfilled, we would not say I was seeing the orange. But if the orange brought about my perceptions, then I can properly be said to be seeing the orange.

(Perhaps we ought to add the further condition that the orange act upon our sense-organs in the ordinary way. Whether we make this addition or not will depend upon whether we include reference to the stimulation of the senses in our account of what constitutes perception. See Section II of this chapter.)

Again, if I have perceptions as of a bear, I can still be properly

said to be perceiving a bush, provided that it is the bush that is bringing about my bear-perceptions. Remove the latter condition and I can no longer be said to be perceiving a bush.

This causal condition, although necessary for saying that A perceives an  $x$ , is, of course, not sufficient. If a probe in the brain causes a visual hallucination, we would not say that the perceiver saw the probe. It may be objected that in the case of the probe the stimulus does not act on the *senses*, but instead by-passes them, acting directly on the brain. But suppose a pin held before my eyes stimulates them in such a way that I have visual perceptions as of a full-size elephant. We will hardly allow that I can be said to be seeing a pin.

What must be added to the causal condition to give necessary and sufficient conditions for saying we perceive an  $x$ ? I do not know the answer. A further necessary condition seems to be that there must be some *resemblance*, even if slight, between the perceptions had and the object said to be perceived. A bush and a bear do have *some* resemblance in visual properties.

Here, then, is the source of what, in Section III, was called the 'existence-grammar' possessed by idioms like 'A saw a bush', a feature easily but incorrectly confused with the 'success-grammar' of idioms like 'A saw that there was a bush before him'. 'A saw a bush' entails that there was a bush to see because it entails that A's perceptions, whatever they were, were *caused* by a bush. And for the bush to be a cause, the bush must exist.

So A perceives an  $x$  entails that  $x$  is the cause of A's perceptions. This is to be contrasted with perceiving *that*  $x$  is  $y$ . If A perceives that  $x$  is  $y$  it need not be the case that A has this perception as a causal result of the fact that  $x$  is  $y$ . For instance, A may see that it will rain. This is not a metaphorical use of the word 'see', as in the case where A 'sees' the point of a joke. Yet the future rain cannot be the cause of A's seeing that it will rain.

Often, of course, when A is said to perceive that  $x$  is  $y$ , he can also be said to perceive an  $x$  or a  $y$ . It would be very neat and simple if we could say that wherever A can be said to perceive that  $x$  is  $y$  he can also be said to perceive an  $x$  or a  $y$ , provided only that the  $x$  or the  $y$  brings about his perception. Unfortunately, however, this is incorrect. For instance, if I see smoke coming up out of a chimney, I can be said to see that there is a fire in the hearth, but cannot be said to see the fire or the hearth. Yet the fire in the

hearth is causally responsible for my seeing that there is a fire on the hearth.

Here, however, we have been going into matters of considerable linguistic detail, and, we may hope, of relative unimportance for the argument of this chapter. It remains true that in what we may vaguely call the *central* cases of perceiving that  $x$  is  $y$ , we can also be said to be perceiving an  $x$  or a  $y$ . And this means that even in the case of 'perceiving that . . .' there is a close link between perception and causality.

To conclude this section. According to our general formula, the concept of a mental state is the concept of a state of the person apt for bringing about certain physical behaviour. It was also said, however, that in the case of certain concepts, notably perception, the state involved is also to be conceived as a state apt for being brought about by certain physical causes. (It will be remembered that Place and Smart, *op. cit.* Ch. 6, Sect. IV, tried to give an account of those mental concepts that they allowed to involve central states in terms of the physical stimuli that characteristically bring the states about.) The link between perception and causation that has just been brought out is clearly connected with this second feature of the concept of perception. For we have seen that to talk of perception is, in typical cases, to talk of a state brought about in a certain way. This matter will be developed further in the next chapter.

## VII. UNCONSCIOUS PERCEPTION

In Chapter 6 it was argued that any mental happening could occur without our being aware of its occurrence. It follows that there can be perceptions of which we are not aware. These are unconscious perceptions.

Cases of unconscious perceptions are easy to find. I pass a hoarding, my eyes rest upon it, but I am not aware of seeing what it says. A little later on I am asked what was written on the hoarding, and, to my surprise, I find I know. It is natural to say that, although I was not aware of perceiving the writing on the hoarding, I did actually perceive it.

In this case I was not aware of the *acquiring* of the belief, but later became aware that I had in fact acquired a belief about what was written on the hoarding. But a case can be found where the

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unconscious, or only dimly aware, of them. In the case of the log that was carefully stepped over, the perception was unconscious, but I do not want to call it a 'small perception'. For in this case it is natural to say that fully-blown *knowledge* was acquired, even if only unconsciously. But, by contrast, even when we recall ourselves from practical concerns and force ourselves to become fully conscious of the profusion of detail offered by vision, we may still want to describe most of these perceptions as something less than the acquiring of beliefs or information.

The trouble seems to be that the impression made upon us is too evanescent. At a certain instant the perception occurs. This is an event, as opposed to a process or a state, but it is the event of coming to be in a new state. But this state disappears so rapidly—the impression fades so fast—that we may well be reluctant to describe it as a state of belief. The state is gone before there is any possibility of a manifestation of belief, and if there is no possibility of manifestation how can we speak of belief?

This very description of the phenomenon, however, shows that there is here no threat to our analysis. What happens in the case of a 'small perception' is that we acquire a certain state, a state which hardly persists for any time, but which, if it had persisted, would be a belief about the current state of our body or environment. There is no reason why we should deny this possibility.

### IX. IMMEDIATE AND MEDIATE PERCEPTION

In *Perception and the Physical World* I fell into serious confusions in attempting to draw this distinction. (The difficulties of my position were pointed out by Noel Fleming in a review article 'The Nature of Perception', *The Review of Metaphysics*, Vol. XVI, No. 2, Dec. 1962.) The cause of my errors was the failure to appreciate the linguistic distinctions between talk of perceiving things and perceiving that something is the case. As a result, I wrongly attempted to distinguish between immediate and mediate objects of perception. In fact, the distinction, which I still think to be of great importance, should be drawn between immediate and mediate perceiving (or seeming to perceive) that something is the case. It must be drawn in terms of the acquiring of beliefs.

It is clear that at least some 'perceiving that ...' involves inference. If I see that there is a cat's head poking out from behind

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unconsciousness is more complete. (A case suggested to me by Noel Fleming.) I am walking along deep in conversation, and, while doing so, step over a log that lies in my path, with every appearance of care and concentration. Yet I remain completely unaware that I have done so. I think we must say here that I saw that there was a log there, although I remain unaware both of acquiring any beliefs about the log, and of the behaviour in which the belief was manifested.

In both these cases, however, it is true that if I had attended I would have been aware of perceiving hoarding and log. The unconsciousness was not a deep unconsciousness, for there was potential consciousness. But 'subliminal perception' provides cases where the perception is not even the potential object of introspective awareness. Suppose a message is flashed on a screen, too fast to have been seen consciously, saying that there is an insect on the left sleeve of my coat. Suppose I then brush my left sleeve, but without consciously attributing any significance to this action. It seems reasonable to say that I saw the message, although I was not and empirically could not possibly have been, aware of seeing it. The belief was manifested in behaviour, but I was unaware of the belief, and unaware of the manifestation as a manifestation of any belief.

### VIII. 'SMALL PERCEPTIONS'

There is an important doubt about an analysis of perception in terms of acquiring beliefs that may still remain in the mind of even a sympathetic reader. Is not talk of acquiring true and false beliefs, or even information and misinformation, too ambitious a way of characterizing much of our perception? In the case of objects that are the centre of our attention and interest, speaking of 'acquiring of beliefs' may seem quite appropriate. But many, perhaps the vast mass, of our perceptions are 'small perceptions' that hardly deserve such a description. Consider, in particular, the great flood of detail that is involved in our visual perceptions. Can we say it is all an acquiring of beliefs or information? occurrence of events like the acquiring of beliefs or information?

The words 'small perceptions' recall Leibniz's phrase '*petites perceptions*'. But I have deliberately not used the French words because I am not referring to the same range of phenomena. The 'small perceptions' I am referring to are not 'small' because we are

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a door, I can say with linguistic propriety and truth that I can see that there is a (whole) cat there. But it is obvious that the perception that there is a whole cat there involves inference. This does not mean that there need be any self-conscious or laborious transition from one belief to another. We saw in discussing the nature of inferring in Chapter 9 that (saving a few qualifications) it involves nothing more than the acquiring of a belief as a causal result of holding another belief. Given this causal relationship between beliefs, then we have inference, even where the transition is automatic and instantaneous.

Now since our knowledge of the current state of our body and environment *begins* with perception, and since we have rejected the view that perceptual beliefs about the world are based on the further evidence of perceptual experience, we must allow that, in every perception, some of the beliefs acquired are *non-inferential* beliefs. Such 'perceivings that . . .' may be called immediate perceptions. All other 'perceivings that . . .' may then be called mediate perceptions. Clearly, they must be inferred on the basis of the immediate perceptions, together with any other relevant beliefs we happen to have.

But the interesting question only arises when we ask 'What sort of "perceivings that . . ." involve no inference?' What sorts of perception are immediate? If we consult ordinary language we shall get the answer that beliefs acquired by means of the eyes like 'There is a cat's head over there' or 'There is a sheet of writing-paper in front of me' involve no inference. And it certainly sounds peculiar to say that they do involve inference. Do I not contrast the cat's body that I infer is behind the door with the cat's head that I do not infer, but perceive quite directly?

Now it is certainly possible to maintain without self-contradiction that when we see that there is a cat's head or a sheet of paper before us absolutely no element of inference is involved. Perhaps it is even the correct view. Certainly there is nothing in the analysis of perception given here which would rule the view out. Nevertheless, there do seem to be grounds which suggest that, despite ordinary language, there is a concealed element of inference in such perceptions. We do have the notion that, correlated with the sense of sight, there is a certain group of properties of objects that may be called the *visual* properties. This group is quite a small one, and exactly what its membership is may be a

matter of dispute, but such properties of objects as colour, shape, size, position and motion seem to be visual properties. Now cat's heads are material objects, and material objects have other properties beside those included in the list of visual properties. For instance, because they are material objects they have a capacity to exert and to resist pressure, and these are certainly not visual properties. The problem then arises how it is that we can see that such objects are material objects. It is natural to solve the problem by saying that we see immediately that there is a thing having certain visual properties before us, and that this, by an automatic and instantaneous inference, produces the further belief that there is a cat's head or a sheet of paper before us. It is only the visual properties of things that can be immediately perceived by the eyes.

Now such an analysis involves splitting up what appears to introspection to be a single event in the mind—seeing the cat's head or the sheet of paper—into the acquiring of one belief which then brings about the acquiring of another. But we have followed Kant in comparing introspection to sense-perception, and have urged further that, like sense-perception, introspection can be mistaken and also that mental processes can occur of which we are not introspectively aware. Now once we have abandoned the idea that introspection is an infallible and all-seeing faculty we can say that the swiftness of the transition from belief to belief deceives the inner 'eye' just as the swiftness of the hand deceives the outer eye.

Of course, this does not prove the hypothesis. It merely shows that inspection of what happens in the mind, and ordinary language which records the result of that inspection, do not conclusively refute the hypothesis I am supporting. Positive proof would have to come from psychology, and in particular, I suppose, from neurophysiology. If, in the brain, visual perception began with a mere registration of colour and shape, and this registration goes on in normal cases to produce a more complex effect in the brain, an effect associated with acquiring beliefs about such things as material objects; then the hypothesis I am advancing would be confirmed.

The view I am putting forward is connected with the Aristotelian doctrine of the 'proper sensibles' that pertain to each sense. The list of visual properties (to take an instance) would however



have to include certain properties that Aristotle classed as 'common sensibles'—shape and size, for instance—because he defines 'proper sensibles' as properties discernible by one sense alone.

On the view put forward here, there would be plenty of room for dispute about exactly what are the visual and other sensory properties, although to say that, e.g. colour was a visual property would hardly admit of dispute. For instance, there could be a dispute as to whether distance out from the eye was a visual property, or was always an inference from other perceptions. Since the identification of visual, tactual, auditory, olfactory and gustatory properties would be a matter of psychological theory, it is clear that there could be much dispute about just what should be included in the lists of such properties.

X. THE NATURE OF SENSE-IMPRESSIONS

If the distinction between immediate and mediate perception is drawn as in the previous section, light is cast on the notion of sense-impressions or sense-data. The concept of a sense-impression seems to be a narrower one than that of a perception. We can find cases where two perceivers have different perceptions, but it is conceivable that they have the same sense-impressions. Consider the case where two people look at a printed page, and one knows what the words mean while the other cannot read. It is reasonable to say that they have different perceptions. One sees meaningful words, the other nothing but marks on paper. But is it not possible (whether or not it is true) that they are having exactly the same visual sense-impressions?

I think the distinction between sense-impressions and perceptions can be made by appealing to our distinction between immediate and mediate perception. When we speak of sense-impressions we are speaking of our perceptions, veridical or illusory, but are confining ourselves to our immediate perceptions, the true or false beliefs that are acquired without any tincture of inference. The beliefs are therefore restricted to beliefs involving the sensory properties of the sense in question. (The sensory properties are the 'proper sensibles' of the sense in question, together with such 'common sensibles' as pertain to that sense.)

We can then understand talk about a person's *visual field* during a period of time as the totality of that person's visual sense-

impressions, that is, immediate visual perceptions, veridical or illusory, during that time. 'Visual field' must then be distinguished from 'field of view'. The visual field, we may say, is something in the person's mind. But the field of view is that portion of physical space over which the person's seeing eye is able to range at that time. Parallel to the notion of visual field are the notions of auditory field, tactual field, etc. They are embraced in the general notion of the sensory or phenomenal field.

Our sense-impressions must not be conceived of as evidence for our non-inferential beliefs about the current state of our body and environment, for they are themselves the acquirings of these beliefs. (And those philosophers who said, or were tempted to say, that sense-impressions are *perceived*, were confusing introspective awareness of sense-impressions with perception.) But sense-impressions can be truly said to be the foundation of all our *further* perceptual beliefs about the environment.

I have said that the narrow compass to which I wish to reduce immediate perception is the consequence of a psychological theory, not a piece of logical analysis. If it is correct to tie the notion of sense-impression to immediate perception, it follows that, although there must be sense-impressions if there is perception, the particular content that sense-impressions have is a matter of psychological theory.

XI. PERCEPTION AND KNOWLEDGE

In those cases where perception involves the acquiring of belief, we have spoken of veridical perception as the acquiring of *true beliefs*, using the phrase 'true belief' neutrally to cover both knowledge and mere true belief.

In the previous chapter, we discussed the nature of knowledge: both non-inferential knowledge and knowledge to which we are led by good reasons. It is clear that the true beliefs acquired in veridical perception will regularly satisfy our conditions for knowledge. Thus, if by using my eyes I acquire the true belief that there is something red and round before me, this will constitute knowledge provided only that, in the circumstances I am in, it is an empirical truth that the physical existence of something red and round before me is a necessary condition of my acquiring that belief. If my belief is 'reliable' in this sense, I have acquired

knowledge. And, since our knowledge of the physical world begins in perception, perception is the major source of our non-inferential knowledge.

But it is possible to have veridical perception that is the acquiring of *mere* true belief. One set of such cases has been already noticed in our discussion of perception and causality. If perceptions correspond with physical reality, but are not brought into being by that reality, we may have acquired true beliefs, but can hardly be said to have acquired knowledge. For it would be just an accident that perception and reality corresponded. (A possible exception might be where physical situation and perception both spring from a common cause.)

However, we may not be willing to count these cases as cases of veridical perception. We might want to say that they were simply perceptual illusions that happened to correspond to reality. The interesting cases of veridical perceptions that are acquisitions of *mere* true belief are those where the causal condition is satisfied. One simple but ingenious case has been suggested by Max Deutscher.

An unsophisticated person watches a conjuror. The conjuror, using no deception at all, transfers a ball from one hand to the other. This means that the following conditions are satisfied:

- (i) The spectator acquires the belief (by means of his eyes) that the conjuror transferred the ball from one hand to the other.
- (ii) The transfer of the ball *caused* the belief that it was transferred to be acquired.

Let us consider what we should say about this case. In the first place, it is clearly right to say that the spectator saw the transfer of the ball. Is it also right to say that he saw *that* the ball was transferred? This is not quite so clear, but I am inclined to think that it is right. But, in the third place, although the spectator acquired a true belief, it is clear that he did not acquire knowledge. For we know that conjurors can easily deceive people in such matters, and so we think the spectator trusted his eyes in a situation where it was unwise to do so, even if, in his case, his trust was not misplaced.

If the notion of a cause was that of a *necessary* condition of its effect, then, of course, the conditions for knowledge would auto-

matically be satisfied in every veridical perception which involved the acquiring of belief. But our ordinary concept of cause, which is the concept involved in our concept of veridical perception, is not the concept of a *necessary* condition. There can be a plurality of causes. Certainly the simplest way to cause A to have visual experiences as of a ball being transferred from a person's hand to his other hand is actually to effect such a transfer before A's open eyes. But a conjuror can cause A to have the same visual experiences without any actual transfer. The unsophisticated spectator's belief, although caused by actual transfer, thus lacks that reliable correlation with the facts that makes a true belief a case of knowledge.

The case of the magician is an unusual and striking one. But a more ordinary case can be found. Suppose that a blue ball in the far distance acts upon A's eyes, and, as a result, A acquires the belief that there is a blue ball in the distance. It may be the case that the object is too far away for reliable judgement. That is to say, it may not be that case that the presence of a blue ball in the far distance is a necessary condition of A's acquiring that belief in the circumstances that A is then in. In that case, A acquires a true belief, but not knowledge.

Nevertheless, in veridical perception the acquiring of *knowledge* is the standard case, the acquiring of mere true belief the relatively eccentric case. The reason for this will be indicated in the next chapter.

XII. THE NATURE OF THE PHYSICAL WORLD

I shall finish this chapter by showing that the analysis of perception in terms of the acquiring of beliefs, or the occurrence of mental events that resemble the acquiring of beliefs, can very simply solve pressing problems about our conception of the physical world.

There is a certain picture of the physical world that we all cherish in our hearts, although in our philosophical thinking we may consider ourselves forced to abandon it in a greater or lesser degree. According to this picture, the physical world, including our bodies, consists of a single realm of material objects, and perhaps other objects, related in space and enduring and changing in time. Material objects have shape and size, they move or are at

rest, they are hot or cold, hard or soft, rough or smooth, heavy or light, they are coloured, they may have a taste, and they may emit sounds or smells. These properties of objects are, on occasion, perceived; but objects continue to have these properties in a perfectly straightforward way when, as is usually the case, the objects, or particular properties of the objects, are not perceived.

This is the picture of the physical world to which we are all instinctively drawn (even Berkeley was). We may think that relatively abstruse evidence garnered from scientific investigations forces us to modify this picture. But it is the picture we have gained through perception, and when we are not considering perception as philosophers, we do not think that the evidence of ordinary perception tends to overthrow it in any way.

But as soon as we start to think reflectively, difficulties for this picture begin to appear. Most of the problems arise in connection with vision, and the excessively familiar cases now to be mentioned are mostly, but not exclusively, visual. Consider first the case of mirror-images. When somebody looks into a mirror, the image that they see appears as far behind the physical surface of the glass as the thing that is imaged is in front of that physical surface. (The image, of course, also reverses the left-right relations of the thing imaged.) Now where are we to place the mirror-image in the physical world? There can hardly be an actual visual object of that sort behind the mirror's surface. The mirror may be backed by a thick stone wall which would certainly exclude such an object. (Two material objects cannot be at the same place at the same time. Neither can two visual objects, such as mirror-images or rainbows. Equally, it seems, a material object cannot be at the same place at the same time as a visual object.) Is the image really a two-dimensional picture temporarily formed on the surface of the mirror? It certainly does not look to be. But where else in the physical world can the image be located?

Or consider the case of the stick that looks bent when half-immersed in water. Does this mean that there is a bent visual object in the water at an angle to the physical stick? Does putting a stick into water split it into a visual and a tactual component which 'occupy' different parts of the water, each in their different ways?

Consider, again, a case mentioned by John Austin in *Sense and Sensibilia* (Oxford, 1962, p. 98). On the horizon a white dot

can be seen. I say 'That white dot is my house'. Yet I would not be prepared to say 'I live in a white dot'. Where, then, shall we place the white dot in the physical world? And what is its relation to my house?

I see the bright disc of the sun. Yet what I see is far, far, smaller than the sun, and in any case is a perception of the sun as it was eight minutes ago. Where shall we place the bright disc that exists now? I see the blue dome of the sky. Yet no such blue dome exists in physical reality. The hole in my tooth feels far larger to my tongue than it looks to my eye. Are there two holes of different size in physical reality?

Such puzzles may be multiplied indefinitely, as is well known.

It is possible to preserve our picture of the physical world more or less intact by distinguishing between the physical world and non-physical immediate objects of perception. We can distinguish between our immediately perceived visual field, tactual field, and so on, and mediate perceived physical objects. The visual field contains mirror-images, visually bent objects, white dots, bright discs and blue domes, but nothing corresponds to these objects in the physical world. The tactual field contains a large tooth-hole, but nothing corresponds to it in the physical world.

To take this way out is to embrace the Representative theory of perception, with all its difficulties. The mind is locked in behind its own sensory field, and it becomes hard to see how we could have any reliable knowledge of the physical world that allegedly lies beyond it. And the Phenomenalist alternative, which tries to give an account of physical reality as an elaborate construction out of subjective sensory fields, faces still greater difficulties.

Another attempt to deal with the problem posed by these sensory phenomena that appear not to correspond to physical reality is to complicate our account of physical reality. Mirror-images, visually bent objects, white dots, bright discs, blue domes and tactually large holes are all given a place in the public world. One of the simplest ways to do this is to distinguish between visual, tactual and other sensory realms, each realm being conceived of as a *public* thing. The physical world is then conceived of as an elaborate correlation or concomitance between these separate realms or 'spaces'. This view preserves our direct perceptual

awareness of the physical world at the cost of complicating, indeed overthrowing, our ordinary picture of that world, a picture which seems to have been gained from perception.

Still other, more complex, solutions of the problem have been offered. But I think it is fair to say that all of them either (i) create a problem of how we can know of the existence of the physical world; or (ii) make that world depend for its existence, at least in some degree, on the perceiving mind; or (iii) destroy our ordinary picture of the physical world.

But if we conceive of perception as nothing but the acquiring of true and false beliefs about the current state of the perceiver's body and environment, or of mental events that resemble the acquiring of such beliefs, an extraordinarily simple and natural dissolution of the problem is possible.

Mirror-images can be excluded from our account of the physical world. There are no such *objets* as mirror-images, instead there are simply false beliefs of those who turn their eyes towards mirrors that there are things behind the glass that resemble the things in front of it. When we look at mirrors we acquire a false belief, just as a camera pointed at a mirror produces a false representation of the world. (And for the same reasons.) In time we learn about the deceptive properties of mirrors, and then the mental event involved is no more than the acquiring of a 'potential belief'. It is an event that resembles the acquiring of a belief, but of which we can say no more than that the state that comes to be would have involved belief but for the existence of contrary beliefs that we hold. However, because the image 'in' a good plane mirror corresponds point by point to the objects in front of the glass we can use mirrors to gain true beliefs about objects in front of the glass.

Again, when a straight stick is partly immersed in water, and it is looked at, it is a fact of nature that the observer acquires a false belief that the stick is bent, or else a mental event like the acquiring of that belief without any actual acquiring of belief.

When I look towards my house when it is far away, I acquire the false belief that it is only a very small (dot-sized) white object, or else the corresponding belief-less event occurs. It *looks* like a white dot-sized object, although it is actually a house. But if I am familiar with this deception, and know that others looking at

the house from the same place have the same perceptual experience, I can speak (loosely) of 'that white dot'.

When I look up at the sky I acquire the false belief that there is a smallish, hot, bright disc above me now. In fact, I later learn, this belief was caused in me by an enormously larger, but also enormously distant, object that existed eight minutes ago. (Given information of this sort, I can use this sensory illusion to acquire true information about the physical world, working back from the nature of the illusion to the nature of things.)

On a cloudless day I acquire the false belief that I am below the centre of a great, blue, dome-like object that encloses my field of view. When I put my tongue-tip in the hole in my tooth I acquire the belief that the hole is far bigger than it really is. If I do not acquire these beliefs, a mental event like the acquiring of belief occurs (a 'potential belief'), but no belief is acquired. And so on.

In this account there is simply the mind acquiring true or false beliefs (or else the occurrence of mental events resembling true or false beliefs), about the physical world of common sense.

This view treats the mirror-images, 'bent' sticks, white dots, hot bright discs, blue domes, etc., as species of *illusion*. One difficulty about this account is that they may not involve false belief. I hope that what has been said in Section IV of this chapter answers this difficulty. They do always involve the acquiring of misinformation, but, because of independent knowledge, this misinformation is often 'discounted'. A second stumbling-block is the *publicity* of the phenomena. This may be answered by pointing out that it is simply a consequence of the uniform operation of the laws of nature and the more or less uniform nature of human sense-organs. The same causes give rise to the same illusions in every perceiver. 'Public' illusions are logical constructions out of the illusions that everybody is subject to in certain circumstances.

But there is a closely-connected difficulty for our analysis that demands a little closer consideration. It may be argued that, so far from it being an illusion when the stick half-immersed in water looks bent, it would be a sign that the stick was not straight if it did not look bent in those conditions. Again, when a flat, round, object looks elliptical from certain oblique points of view, then so far from it being an illusion, it would be a sign that the object was not round if it did not look elliptical in that situation. In both

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cases, presenting just these appearances under just these conditions seems to be part of what makes the physical objects the objects they are. How, then, can these appearances be accounted illusions?

I think the answer to this is that our *primitive* concepts of straight sticks and round flat objects do not involve saying that they present these illusory appearances. But afterwards, it is discovered that these illusory appearances are, as a result of the laws of nature and the uniform nature of the human sensory apparatus, presented to all perceivers under certain conditions. Now there is always a tendency to pack widely-known facts about an object into the concept of that object. As knowledge increases, our concepts tend to presuppose more and more empirical facts. This is what happens in the cases we are considering. It becomes part of the concept of a straight stick or a round, flat object that they present certain illusory appearances to all observers under certain conditions.

This chapter has involved the discussion of many complexities. But a single, simple, thread has run through the argument. It is the contention that we can give an account of perception in terms of the acquiring of true or false beliefs or information.