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FUNCTIONAL ROLE AND TRUTH CONDITIONS

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IS SENSE TRANSPARENT?

I

There are norms governing our mental lives whose correctness seems to be *a priori*; even if rational dispute over them is possible, it will be conducted on *a priori* grounds. Thus consider the principle, 'believe only truths'. Even if this is not quite the right way to formulate it; even if it ought to be elaborated somewhat; the discussion can proceed on the basis of *a priori* argument. It need not call upon assumptions about the character of the environment. In contrast, the way in which this principle is to be *applied* in particular cases does, in general, depend upon the way things are in one's environment. *Which* propositions are true depends, in many cases, on how things are around one.

There is an authentically Cartesian quest for principles governing one's mental life which are not merely such that their correctness, *qua* general principles, can be recognised *a priori*, but whose *application* to one's thinking does not depend upon how things are in one's environment. Rather, one can recognise by reason and reflection alone how the principle bears on one's cognitive life. Thus, for example, the 'clarity and distinctness' of a perception is to be recognisable, for Descartes, strictly from within.

Principles governing the validity of arguments may seem to be the paradigms of Cartesian norms. One way to put the point is this. *Validity* applies in the first instance to *patterns* of inference; it is general forms which are valid or not. And which patterns of inference are valid does not depend at all upon the character of one's environment. Whatever one's surroundings, the same patterns of inference are correct. Even if we assume that rational dispute is possible about which patterns are valid, the dispute

does not proceed by investigating the world around us. Whether a given chain of ground-floor reasoning is valid is, on this approach, a secondary matter. It depends upon whether it exemplifies a valid pattern of inference. We obtain the distinctively Cartesian conception of inference if we insist that whether a particular ground-floor argument exemplifies a given general pattern is a matter independent of how things are in the thinker's environment.

The 'two-component' analysis of ordinary ascriptions of propositional attitudes uses this conception of inference. On this analysis, the notions of *truth* and *reference* concern 'external' characteristics of the thinker's propositional states. They do not relate purely to the internal transitions among those states, but rather describe them in ways which depend upon how things are in the environment. These 'external' characteristics thus contrast, on this analysis, with the 'internal conceptual role' of a content. In this paper I shall be concerned with any view, such as Professor Block's,¹ which takes it that the 'internal conceptual role' of a content includes its *inferential role*: which contents it can be validly inferred from, and which contents can be validly inferred from it. On this analysis, the inferential role of a content is a matter merely of its place in a network of 'internal' relations between propositional states. The background idea here is that *validity* is a 'narrow' property of chains of reasoning. That background view can be explained as follows. Suppose that both I and a physically identical double of mine are in quite different environments, so that our terms refer to different things, and our predicates have different extensions. On this view, when we both execute chains of reasoning, his inference is valid just if mine is. This view depends upon the Cartesian conception of inference. It requires that the *form* of an argument should be something that is independent of how things stand in the environment.

I want to outline an alternative to the Cartesian conception of inference. I shall begin by pointing to the role of the notion of sense in an account of inferences involving singular terms. And I shall indicate how an 'externalist' view of sense makes available

¹ N. Block, 'Functional Role and Truth Conditions', *Aristotelian Society Supplementary Volume LXI* (1987), 157-181.

a non-Cartesian account of such inferences. Finally, I shall indicate why such an account seems mandatory.

II

Ultimately, as we shall see, we ought to locate the notion of sense within an account of the broad notion of a *correct transition*, which would include not only inferential transitions, but the move from perception to judgement. But we can begin with the need, in an account of inference, for the notion of the *sense* of singular terms. I shall make some remarks on the notion of *valid inference* which concerns me here, and go on to indicate the role of the notion of sense in giving an account of validity, thus understood.

The notion of *validity* which we need is the notion of *formal* validity, the idea that an argument is valid if its form is such that necessarily, if any argument has that form, then if its premises are true, so too must be its conclusion. There is, as we shall see, a general constraint on the notion of *form* here. The form of a valid argument must meet the following condition. It must be possible to move from premises to conclusion in a series of individually obvious steps, each of which owes its obviousness to its form; and the form in question must always be such that necessarily, any argument or sub-argument of that form with true premises has a true conclusion. The notion of *obviousness* here is of course an epistemic one. It is the notion of the *manifest correctness* of a transition.

Any account of logical form which deals with inferences depending upon two occurrences of singular terms having the same referent will need to say when one can, as I shall put it, simply *trade upon* the fact that they have the same referent. The point here is an extremely elementary one, and usually taken completely for granted. But it is worth pausing over it, because it is in dealing with it that we see why we need the notion of the *sense* of a singular term.

Consider an inference which depends upon co-reference—for example, the inference from $\lceil s \text{ is } F \rceil$ and $\lceil s' \text{ is } G \rceil$ to 'there is something which is both *F* and *G*'. Here I use different variables "*s*" and "*s*'" to emphasise that we have here different singular *tokens*—that is, that the singular terms are being used in different judgements. I leave open whether the tokens are, in any relevant

sense, of the same type. We have to separate two types of case. In the first, we trade directly upon co-reference, moving directly to the conclusion. To anticipate, it seems to me that we can do this just when the two tokens have the same sense. In the second type of case, where the tokens do not have the same sense, it would not be legitimate to move directly to the conclusion. The inference depends upon a suppressed premise which assures us that the tokens s and s' refer to the same thing; it is of the form Γ is identical to $t'\neg$, where t and t' are singular tokens. Since they figure in different premises, these are, trivially, different *tokens*.

Just to make vivid the need for an account of when it is legitimate to trade directly upon sameness of reference, consider what would happen if we tried never to do so, but always appealed to a premise asserting identity. In the case just given, we would need an assurance that the tokens t and s refer to the same thing, and an assurance that t' and s' refer to the same thing. We need a pair of identity propositions, involving a quartet of new singular tokens, and we again have to be assured that they refer to the same things as the relevant tokens already in play. We have, evidently, launched on a regress. It stops only if at some point we *can* take it for granted that two singular tokens refer to the same thing, and can simply trade upon the *fact* of their being co-referring, rather than having in our reasoning to rely upon a new identity-proposition as a suppressed premise.

Here I am not trying to establish a point which is in any way controversial, but rather to bring out, in an abstract way, a need which we usually acknowledge and meet without paying any particular attention to it. We need an account of *when* an inference may simply *trade upon* the co-reference of two singular tokens. It is in giving such an account, as we shall see, that we must appeal to the notion of the *sense* of a singular term. In outline, the account will be that the inference may trade directly upon the fact of co-reference of two singular terms just when they have the same sense.

To see why *sense* is the right notion here, let us consider some alternatives. We plainly make no progress with the suggestion that what is required is that the two singular-term tokens should be of the same formal type—in the case of written tokens, that

they should be of the same shape. That two demonstrative tokens are of the same type is no indication that they refer to the same thing. The criterion does not even seem to be correct for the case of ordinary proper names, given the possibility that two different things may share a name.

For us, the question when it is legitimate to trade upon co-reference arises in the context of the notion of *validity* to which the Cartesian is appealing. Now on one account, a set of premises *entails* a conclusion just if it is not possible for the premises to be true and the conclusion false. So 'Hesperus is *F*' and 'Phosphorus is *G*' entail the conclusion, 'there is something which is both *F* and *G*'. Identities, where true, are necessary, even if *a posteriori*. So necessarily, if the premises are true, the two terms co-refer. On this account, then, an inference may trade directly upon the co-reference of two singular tokens just when they do in fact designate the same thing. This notion of entailment is not the notion used by the Cartesian. To put the point in terms of the 'two-component' theory, a qualitatively identical physical counterpart of mine, on a planet where the heavenly body seen in the morning is different from the heavenly body seen in the evening, might go through the very same 'internal' processes, but *his* premises would not entail his conclusion. *De facto* sameness of reference is not something of which we have a purely 'internal' guarantee.

The Cartesian is appealing to the idea that the *form* of a valid inference is what makes it necessary that if the premises are true, so too is the conclusion. But if the notion of form is completely unconstrained, then there is no reason why *de facto* sameness of reference should not count as part of the form of an argument, and then as before, the inference from 'Hesperus is *F*' and 'Phosphorus is *G*' to 'there is something which is both *F* and *G*' will count as formally valid. He must here appeal to the idea indicated earlier: that the form of a valid argument must do more than merely secure that if the premises are true, so too is the conclusion. The form of a formally valid argument, in his sense, must furthermore make it possible for one who grasps it to move from premises to conclusion in a series of steps, each of whose correctness is individually *obvious*. The Cartesian surely is right to think that there is some such alternative to the above account of entailment. We do anyhow need the notion of the

form of the argument being such as to guarantee that necessarily, if the premises are true, then so is the conclusion; and further, that in virtue of its form, each step in the argument is *manifestly correct*.

In that case, we can agree with him that we need an alternative account of when an inference may *trade upon* the fact of an identity. For *de facto* sameness of reference is not enough to make it *obvious* that if the premises 'Hesperus is *F*' and 'Phosphorus is *G*' are true, then so too is the conclusion. The same point can be made for the case of perceptual demonstratives. A man sitting in a wasp-filled garden may see a wasp and think, 'that wasp is *F*'. Some time later, having lost track of the first one in the meantime, he may see a wasp and think, 'that wasp is *G*'. Even if it is in fact the same wasp that is in question, our subject surely could not infer *directly* from those two judgements that 'there is something which is both *F* and *G*'. The transition would have to be mediated by a further premise, to the effect that it was the same wasp on both occasions, for us to have an inference which is valid in the sense which concerns us. *De facto* sameness of reference, then, is not the criterion we need. The name of the criterion we need is: sameness of sense.

A theory of validity, of the type we seek, will have three mutually dependent levels. We shall need an account of our grasp of semantic structure; minimally, of the significance of concatenation, but possibly also of our grasp of more complex constructions. We shall also need an account of our grasp of the logical constants, including identity. What concerns us here, however, is a third level, upon which these two depend: an account of identity of sense. Strawson made the point long ago, in criticising Quine's view that one can explain logical truth without appealing to sense.² Strawson's concern was ambiguity: the validity of the inference from 'John is sick' to 'John is sick' depends upon it being the same proposition that is expressed both times. Here I am making the point for singular terms: it has to be the same singular sense that is used in both premises, for it to be valid to infer from '*a* is *F*' and '*a* is *G*' to 'there is something which is both *F* and *G*'.

²'Propositions, Concepts and Logical Truth', in *Logico-Linguistic Papers* (Methuen: London 1971).

So far the notion of sense is entirely programmatic: it is simply what has to be held constant for the inference to be valid. But in fact this imposes heavy constraints upon the notion. Validity, of the type which concerns us, requires that it should be *the same thing* that guarantees that necessarily, if the premises are true, so too is the conclusion, as makes it *obvious* that the transition is *correct*.

In the case of inferences trading upon identity, this requires that sameness of sense should guarantee, and make manifest, sameness of reference. What went wrong, in the cases considered above, was that the sameness of reference was not *manifest*. And the notion of *manifest sameness of reference* that we need here is an *epistemic* notion. *Manifest* sameness of reference has to be capable of playing a role in explaining the epistemic value of inferences which trade upon co-reference.

The Cartesian conception of inference requires a particular view of sense. On this view, one can *trade upon* sameness of reference when, and only when, anyone who knows which judgements have been made has immediate and infallible knowledge that it is the same thing that is in question. Whether it is correct to trade upon sameness of reference must be completely independent of how things stand around one. The Cartesian may acknowledge the possibility of mistakes made through fatigue or distraction. What he rules out is the possibility of a mistake about the form of one's thinking which can be corrected *only* on the basis of perception. Resistance to Cartesianism begins when we question this insistence on the 'transparency' of sense. The contrasting account would hold that whether one can trade directly upon the co-reference of two singular terms may be a point on which one is reliable rather than infallible. It may depend upon features of one's environment, and in particular upon the character of the particular things to which one's terms refer. On this view, one is reliable, rather than infallible about what the form is of one's own reasoning; one is reliable, rather than infallible, about *which* pattern of inference a particular ground-floor argument exemplifies.

One way to challenge this Cartesian insistence upon the transparency of sense is to appeal to what may intuitively seem to be 'compound' senses. Suppose, reflecting on one meeting

with a man I have encountered, who I think of merely as 'the Russian', I think, 'the Russian is going to the Embassy'. Reflecting upon another, much later meeting with what is in fact the same man, I think: 'the Russian is always armed'. Is it possible to trade directly upon co-reference, and conclude that someone who is always armed is going to the Embassy? That depends upon whether there is 'manifest sameness of reference' here. If we say that there is, we have taken up a view on which there being manifest sameness of reference may depend upon the thinker's 'external' epistemic relations to his environment. We shall be saying that there is indeed a single, albeit 'compound' sense here, whose existence depends upon a presupposition—that there is a single thing around, the Russian, whose reidentification by me is epistemically sound. These 'external' factors will affect whether my *application* of the inference rule has been correct; so the Cartesian view of inference will have been abandoned. The Cartesian will protest that this approach cuts senses too coarsely. He will insist that the inference *must* be enthymematic, and will insist on reinterpreting any such case as this to bring out a suppressed identity proposition. In effect, he will recognise only 'simple', rather than 'compound' singular senses.

The problem with this approach is that the quest for 'simple' senses is pursuit of a chimera. At the foundations of our talk of objects, there are not such simple senses to be had. I want to look at the bearing of perceptual demonstratives on this issue. There are two questions in particular I want to consider. Suppose, first, that someone looking at a glass thinks: 'that glass is full'. Here the demonstrative term expresses a way of thinking of the glass that is made available by his seeing it. Or again, he may think: 'that glass is rigid'. And here the demonstrative term expresses a way of thinking that is made available by his touching the glass. The first question I want to raise is whether it can be the *same* demonstrative sense that is being used in both the visual and the tactual judgements. Again, someone looking at a glass may judge: 'that glass is clouded', and a few moments later, judge: 'that glass is heavy'. The second problem I want to take up is whether it can be the one and the same demonstrative sense that figures in both of these temporally separated judgements.

These questions bear on what we say about two types of

ground-floor argument. First, there are inferences of the following form, which I shall call *the cross-modal case*:

that glass is *F*

that glass is *G*

so, there is something which is both *F* and *G*.

Here the two premises are not anaphorically linked; both involve self-standing uses of demonstratives. The first judgement is made by the subject on the strength of seeing the glass. The second judgement is made on the basis of touching the glass. So an inference of this type might be: that glass is full; that glass is rigid; so, there is something which is both full and rigid. Is this inference enthymematic? We have seen that the question turns on whether the two demonstratives have the same sense. Notice, however, that in this case one has no 'internal' guarantee that it is the same thing that is in question. For example, it may be that one is seeing a hand holding a glass reflected in a mirror, and does not realise that that hand is not one's own; one may be wrong in taking it that the glass one is seeing is the glass one is touching. The issue is whether this is enough to establish that we here have different senses.

Secondly, there are inferences of the following type, which I shall call *the temporal case*:

that glass is *F*

that glass is *G*

so, there is something which is both *F* and *G*.

Here the two uses of the demonstrative 'that glass' are to be thought of as separated by an interval of time. It may be a relatively brief period. But during it there is, or at any rate may be, an interruption in the subject's perception of the object. Again, the subject has no 'internal' guarantee that it is the same thing that is in question; there is always the possibility of unobserved substitution of one thing for another. And again, the question is whether this is enough to establish that we have here different senses, and that the inference is consequently enthymematic.

III

We have two paradigm types of true identity statement in which the singular terms have different senses. One is Frege's example, 'the Evening Star is the Morning Star'. Here the motivation for

taking the senses to be different is that it requires a background of auxiliary astronomical hypotheses and reasoning to establish the identity. Or again, the identity 'Tully is Cicero' can be known only on the basis of auxiliary historical reasoning and beliefs. The second type of paradigm of a true identity statement in which the singular terms have different senses is illustrated by, for example, ' $14 \times 14 = 196$ '. The motivation here for taking the senses to be different is not that auxiliary knowledge is needed to establish the identity. It is rather that knowledge of the truth of the identity is not *immediate* for all who understand it. It takes conceptual reasoning to assure one that it is true, which it would not do if it were one and the same sense. It is not only in mathematics that we find such identities, which though requiring no auxiliary knowledge to be proven nonetheless require reasoning on the part of the subject. An empirical example would be: 'the daughter of Pharoah's only child is the sister of Pharoah's grandson'.

On the Cartesian view, we have to make a distinction between the demonstrative, 'that (tactually presented) glass' and the demonstrative 'that (visually presented) glass'. Thus the true identity, 'that (touched) glass is that (seen) glass' involves two different singular senses. But it must be said that this identity bears little resemblance to either of the paradigms above. Knowledge of its truth does not ordinarily require any auxiliary empirical investigation by the thinker; no astronomical or historical hypotheses are involved. It is, of course, a contingent fact that the thinker has by touch and vision information concerning roughly the same region of the world. It is not difficult to imagine a thinker for whom touch and vision came apart: whose eyes relayed information from Australia while his body had tactile information from Essex. But it would be wrong to think of the hypothesis that ordinarily, vision and touch give one information concerning the same things, as if it were on a par with the hypothesis, which might be used in establishing the identity of the Evening Star and the Morning Star, that they and the earth travel in elliptical orbits around the sun. The integration of touch and vision plays a far more fundamental role in our cognitive lives than that.

Equally, the alleged identity, 'that (touched) glass is that (seen) glass' bears little resemblance to, for example, ' $25 \times 25 =$

625'. It is true that cognitive skills of the thinker are in play here, as he keeps track of the object from modality to modality. But these are not *conceptual* skills of the thinker: they do not have to do with his abilities in conceptual reasoning, unlike the ability to engage in mathematical computation, for instance. The cognitive skills in question here belong to a sub-personal level; they are part of the cognitive substratum that makes a conceptual life possible at all.

Parallel remarks apply to the temporal case. The sameness of the objects around one which one encounters from time to time is not an ordinary empirical hypothesis, established by investigation on the part of the subject, on the strength of which he takes a particular sequence of encounters to be encounters with the same thing. And though keeping track of objects from moment to moment is certainly a cognitive skill, it belongs to a more rudimentary level than conceptual computation.

The *epistemic* value of these cognitive skills is of course essential to a non-Cartesian account here. Suppose, in the temporal case, that one has *kept track* of the object, in the time between judging 'that glass is *F*' and judging 'that glass is *G*'. On the non-Cartesian account, the *form* of one's reasoning depends upon whether one has succeeded in keeping track. If one has succeeded in keeping track, then the form of one's inference is such that necessarily, any argument of that form with true premises has a true conclusion. Furthermore, in virtue of the argument being of that form, it will be *obvious* to one that if the premises are true, so too is the conclusion. We are supposing here that the keeping track is successful, both in that it really is the same object that is in question, and in that the keeping track is epistemically reliable.

The view that it *must* be a different demonstrative sense that is being used at different times depends upon some such idea as this: if it is *possible* for the subject to make a *division* in the information he is receiving about the object, and to suspect that the information on either side of the divide is coming from two different things, then there are two different modes of presentation in play.

In fact, however, the standard Fregean criteria for synonymy do not tell in favour of this Cartesian principle. One Fregean test for difference of sense has to do with doubt: if it is possible to

doubt whether ' s_1 is identical to s_2 ', then s_1 and s_2 must have different senses. This is connected to another Fregean test: that if it is possible rationally to take conflicting attitudes to the thoughts ' s_1 is F ' and ' s_2 is F ', then s_1 and s_2 must again have different senses. The possibility of such conflicting attitudes opens the way to doubt as to whether ' s_1 is identical to s_2 '; the possibility of such doubt opens the way to rationally having conflicting attitudes to the two thoughts.

What matters, in applying these tests, is whether the subject *actually does* make a division in the perceptual information he is receiving. The mere possibility of such a division does not show one is actually in a position to ask whether 'this glass (perceived now) is identical to that glass (perceived a moment ago)', for example. Raising this question, in the everyday kind of case which concerns us, is a *reflective* project. It requires that the subject be thinking about the character of his perceptions. It takes him away from the ground-floor, unreflective use of perceptual demonstratives. One might be inclined to suppose that an intense focus of concentration could enable one to raise the question of identity: as if the absurd ground-floor question, 'Is this glass this glass?', could be made intelligible by a concentrated inward squint, as one said the first 'this glass', at the glass as it was at one moment; and a concentrated inward squint, as one said the second 'this glass', at the glass as it was an instant later. The problem is that inward squinting serves merely to focus attention on the thing itself; whereas what is wanted is to make a division in thought between 'the glass I am perceiving now' and 'the glass I was perceiving a moment ago'. This is *essentially* a discursive project, requiring that one *think about* one's perceptual input in relation to one's surroundings. One is not here simply *using* one's perception to identify an object unreflectively, as one is in the ordinary use of perceptual demonstratives. No amount of unreflective inward squinting, however intense, will enable one to make the division in one's perceptual information; it will merely focus one's attention back onto the object. To raise the question of identity is to have moved away from the ground-floor, unreflective use of perceptual demonstratives.

The principle being mishandled by the Cartesian is surely this: if the subject *actually does* make a division in his perceptual

information, so that he can raise the question whether it is the same thing that is in question, then we have two different modes of presentation. So if we have a subject who really does suspect that one glass has been substituted for another in the last few minutes, then there is indeed a distinction to be made between the modes of presentation he is using. We can acknowledge this, while respecting the Fregean principle that it is impossible for a rational thinker to simultaneously take conflicting attitudes to a single thought. For 'rationally taking conflicting attitudes' here will require the thinker to *make a division* in his input information; and once he has actually made the division, we will indeed have different senses.

Parallel points apply to demonstratives in different sensory modalities: to 'that glass is *F*' said on the basis of seeing it, and 'that glass is *G*' said on the basis of touching it, for example. The Cartesian insists that the mere *possibility* of the subject's making a division between the information input from sight and from touch, shows that it cannot be the very same demonstrative way of thinking that figures in both seeing and touching. But here too, in ordinary cases, the question of identity cannot be raised as part of the ground-floor, unreflective use of demonstratives—an intense focus of concentration could not be enough to make it possible to raise it. The correct response is that if the subject *does* make a division between his visual and tactual input, then we have different ways of thinking; but so long as he does not in fact make the division, it may be the very same mode of presentation that figures in both sight and touch.

The non-Cartesian endorses a broadly Fregean form of the transparency of sense. He accepts the following: that if, for example, one *does* succeed in keeping track of a particular wasp over time, or from sensory modality to sensory modality, and makes the judgements, 'that wasp is *F*', and 'that wasp is *G*', then one must know *immediately* that it is the same thing that is in question. Furthermore, if the subject had *not* succeeded in keeping track of the wasp, then he would have been unable to grasp either of those thoughts. Demonstrative senses are, on this view, individuated in terms of keeping track of things.

What the non-Cartesian abandons is the transparency thesis,

in the form in which it is held by the Cartesian. In this form, the thesis is that anyone who grasps two thoughts involving the same singular sense must thereby know, *infallibly*, that it is the same thing that is in question. There must be no room in reflection for doubt as to whether the perceptions on which one's use of the demonstrative is founded were caused by one and the same thing. Once one has grasped just what conception of sense is required by the Cartesian view of inference, one may naturally be sceptical as to whether there are the 'simple' senses it needs—ordinary vision, for instance, operates on the assumption that the same things are seen with the left eye as are seen with the right eye: how then can any demonstrative relying on this assumption have a Cartesian 'simple' sense? The problem that remains is to articulate the principled reasons for dissatisfaction with the Cartesian picture.

IV

We need a positive approach to the individuation of demonstrative senses, more fine-grained than the account given by the Fregean criteria. We can put the question by distinguishing between the *general* capacity to identify things, on the basis of perception of them, and one's grasp of *particular* perceptual demonstratives, that issues from the exercise of this general ability. The general capacity for demonstrative identification is not something isolated from one's other cognitive abilities. It consists in one's capacity to *use* demonstrative modes of thought in the context of certain fundamental patterns of inference and judgement. The question which concerns us is whether the capacity to *keep track* of objects, across time, or across different sensory modalities, is intrinsic to this general capacity. If it is, then the *exercise* of this capacity, in one's having particular perceptual-demonstrative thoughts, must be seen as involving these capacities to keep track. The individual demonstrative senses themselves are not more fine-grained than is provided for by the articulation of the general capacities which are exercised in grasping them.

Let us consider, then, the core patterns of inference in which we use perceptual demonstratives. We should, I think, see them in the context of a slightly more general inquiry: one which

includes also the *transitions* we make from perception to judgement; and the way in which a present perceptual-demonstrative judgement may depend upon a *past* perception.

Even the simplest perceptual-demonstrative judgements exploit our grasp of what is sometimes called an 'intuitive physics'. This theory defies concise axiomatisation. It includes the classifications under which we take the world to be stable, the kinds of variation we expect, and the kinds of change we expect bodies to undergo when acted upon by each other and by us. Grasp of this theory shows itself in, for example, which judgements we presently make, upon the strength of our past perceptions. Thus, suppose I look at a table and think, 'that table is circular'. A few minutes later, without having to check that it has kept its shape, I will still be prepared to judge, 'that table is circular'. Or I may think, 'that table is brown', and a few moments later, still be prepared to judge, 'that table is brown', even if it has become covered by papers in the meantime.

One might be inclined to suppose that demonstratives should be thought of as instantaneous 'snapshots' of objects, because one can after all make such a judgement as 'that table is round' on the strength of a momentary glimpse of it. It may therefore seem promising to suppose that someone could come to understand observational concepts without having the capacity to keep track of the things around him. The problem is that such a person would not be able to operate with the inferential structure that we use in marking the distinction between something's *seeming* to fall under an observational concept and its *really* doing so. For marking that distinction requires keeping track of the thing, noting its subsequent states, and using such reasoning as: 'It is now *G*; but it would only be *G* now if it had been *F* earlier; so it must indeed have been *F* then'; or simply: 'It is now *F*; but it would only be *F* now if it had been *F* then; so it must have been *F* then'. Plainly one could not succeed in this type of reasoning, crucial to marking the right/seems right distinction for observational concepts, if one could not keep track of things.

We have distinguished between one's *general* ability to identify things on the basis of perception of them, and one's grasp of *particular* perceptual demonstratives, that issues from the

exercise of the general ability. This general ability just is the capacity to use perceptual identifications of particular things in the context of observational judgements, judgements using the concepts of our 'intuitive physics'. If the above remarks have been correct, then this general capacity is not just a capacity for momentary focusing upon objects; being able to *keep track* of things over time is intrinsic to it. If this were not so, then the general capacity would not, even potentially, engage with the *full* use of observational concepts. But to grasp a *particular* demonstrative is just a matter of exercising this general capacity. So we have to think of grasp of a particular demonstrative as bringing to bear, *inter alia*, one's capacity to keep track of things—even if, on a particular occasion, one is prevented from actually keeping track of the thing by, for example, its speeding out of view. To slice demonstrative senses so finely that one could not in principle grasp the same demonstrative sense at different times is to insist on distinctions that cannot be motivated by appeal to the inferential articulation of ordinary observational thinking.

Parallel remarks apply to the use of demonstratives in different sensory modalities. In the case of sight and touch, we take it that the ascription of qualities to an object on the basis of sight will have implications for its tactile character; and we expect the tactile character of a thing to have implications for how it will look. This point is not restricted to the core 'primary qualities' or 'common sensibles' which are invariant from modality to modality; that a poker is red, for instance, has implications for what it would be like to touch it. Following through these implications just requires us to keep track of the thing from modality to modality. There is, indeed, a disanalogy here between sight and touch on the one hand, and sight and hearing, or touch and hearing, on the other. Sight and touch both have the capacity to sustain, of themselves, our ordinary conceptions of enduring spatial things. Hearing, notoriously, does not: someone relying on sound alone would not have, in anything like the way we do, the notion of objects as occupants of space. The use of demonstratives, such as 'that car', on the basis of hearing, thus must be intrinsically connected to perceptual identifications in other sensory modalities. It is part of the general capacity to use such aural demonstratives that one

be able to keep track of the car as it sweeps into view, for example, or as it brushes past one.

It might be asked how deep this feature of our ordinary thinking runs. It might be agreed that our grasp of demonstratives is indeed embedded in our grasp of this type of 'intuitive physics'. It might be agreed, that is, both that there is no grasping demonstratives outside the context of some such theory, and that using demonstratives in the context of *our* intuitive physics just does involve exercising one's capacity to keep track of things. But the question is whether this is not an incidental feature of our ordinary thinking. Given that we do not ordinarily *make a division* between the information reaching us about an object from one moment to the next, or from modality to modality, does this reflect any deep feature of our ordinary thinking about the physical world? Could there not be, for example, someone who shared our concepts of distinct, enduring physical objects, yet who invariably did mark the distinction between one moment and the next, or between the information reaching him from different modalities?

The beginnings of an answer are pointed to by Strawson: 'It seems reasonable to suppose that there would be no question of applying concepts [of distinct, enduring physical objects] unless those concepts served in a certain way to *link* or *combine* different perceptions—unless, specifically, they could, and sometimes did, serve to link *different* perceptions as perceptions of the *same* object'. Indeed, Strawson continues, 'We could not count any transient perception as a perception of an enduring object of some kind, unless we were prepared to count, and did count, some transient perceptions as, though different perceptions, perceptions of the same object of such a kind. The concepts in question could get no grip at all unless different perceptions were sometimes in this way combined by them'.³ This echoes Strawson's talk in *The Bounds of Sense* of the 'concept-carried connectedness' of perceptions: the role of concepts in perception is to *unify* our experience of a *single* world. And the unity and stability of the world is partly constituted by the fact that it is the

³ 'Imagination and Perception', in *Freedom and Resentment* (Methuen: London and New York 1974), p. 51.

same objects that are perceived at different times or through different sensory modalities.

The point may be pressed by distinguishing between the level of perception, at which things merely *seem* to be so, whether or not one actually takes them to be so, and the level of judgement and belief. It is not just that we do in fact take ourselves to be experiencing independently existing things; rather, perception itself *presents* them as independently existing—that is how they seem. That point is frequently remarked; but what does it come to? It involves precisely this: that the subject, in making judgements about particular things, does not make any division in his perceptual information concerning them from one moment to the next, or from sensory modality to modality. The character of perception here, in being perception *as of* an independent world, consists in part in the way in which it is related to the level of judgement, in that one's perception-based judgements about a particular thing are sensitive to one's perception of the thing over a period of time, and through different modalities.

It is possible in a particular case for one to reflect on what is happening, and to question whether one really has succeeded in keeping track of an object. But that is not the general case. Someone who simply *never* took himself to be keeping track of objects from instant to instant, or from sense-modality to sense-modality, would be someone for whom perception had ceased to have, as part of its intrinsic character, the representation of objects *as* independently existing things. Ways of thinking of *objects* are thus intrinsically coarse-grained with respect to the underlying perceptual information. To cut senses as finely as the Cartesian would have us do, would shatter the integrity of conceptual thought.

V

On the account I have been outlining, *which* ground-floor inferences the subject *ought* to engage in depends upon the character of his environment. If it is to be in general legitimate for the subject to engage in ground-floor inferences of the cross-modal and temporal types, then it must be, as a matter of empirical fact, that his environment consists of enduring perceptible objects, whose existence is independent of their

being perceived by him; and it must be that the objects which he sees are in the main the very same objects as he can touch. Furthermore, it is not just that there is a dependence upon the environment *in general* having a certain character: there is a dependence upon the existence and nature of the particular objects being identified. So it is in the cross-modal and temporal cases. A case in which such an inference is of a valid pattern may be one which the subject cannot 'from the inside' tell apart from a case in which the demonstratives in the two premises refer to different things—for example, a case in which one glass is substituted for another when I turn my head, or a case in which I can see one glass but am touching another.

The norms governing inference seemed on the face of it to be the paradigms of Cartesian norms: norms whose correctness could not only be recognised *a priori* but whose application to our mental lives could be recognised independently of any assumptions about the character of our environment. But the rules of inference are not Cartesian norms. So we ought to step back and question the rationale of the Cartesian enterprise.

Since Hume, the Cartesian programme has had to face the possibility that if we exclude appeal to environmental factors, if we consider only what is proper to the mind, then we shall find room only for the naturalistic description of *what we do*. Given the materials to which the 'internalist' is restricted, norms simply fade out of the picture. Hume's own response was that the very existence of norms applicable to our ground-level thinking has to be called into question: there may be *only* the naturalistic description to be had. This position, however, is not ultimately coherent. It seeks to abandon talk of norms while continuing to acknowledge the existence of the psychological. But the realm of the psychological just is the realm of the normative: psychological explanation is a matter of showing, roughly, that the subject thought and acted as he *ought to have done*, given the conditions prevailing.

If the thrust of this paper has been correct, there is another position available. This position holds that there are indeed inferential norms governing our thinking, whose formulation, as general rules, may indeed be a matter for resolution *a priori*, but that the application of these norms to our ground-floor reasoning is not a matter independent of how things stand in our

environment. This position abandons the opposition between what is proper to the mind, and what has to do with how things are in the environment: it insists that the normativity of the mental requires the world-involving character of the mind.⁴

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