

NATURALISM AND CONCEPTUAL NORMS

Perhaps the central problem in the philosophy of mind is how the mental can be accommodated within a naturalistic world view. This is the problem of naturalistic accommodation. Most discussion in this area has been devoted to the qualitative aspects of conscious experience, but the normativity of the mental poses no less a problem. Normative constraints are operative on all thinking simply in virtue of the normative dimensions of concept possession. Related issues have been extensively discussed in, for example, the literature spawned by Kripke's 1986 defence of the normativity of linguistic meaning. But the discussion has largely passed by the crucial question of how such normativity might be accommodated within a broadly naturalistic world view.

The most developed proposal in this area has been put forward by Christopher Peacocke, who identifies two distinct sets of normative properties and constraints on concept possession. The first set of constraints operates at the level of reference. Concepts form part of, and are individuated by their role in, the contents of propositional attitudes. Propositional attitudes, like all content-bearing states, are assessable for truth or falsity, which are normative properties associated with the obvious constraints that we aim at truth and the avoidance of falsity in the formation of our beliefs. In addition, three types of normative properties and constraints operate at the level of sense. Any acceptable account of what it is to possess a concept will have to include certain specifications of circumstances in which it is appropriate to apply that concept. There are also what Peacocke terms the normative liaisons of individual concepts. Part of what it is to possess a given concept is that one should be able to recognise that certain circumstances give one good reasons to take particular attitudes to contents containing that concept. Finally, concept mastery is also evidenced in dispositions to make and to accept as legitimate certain inferential transitions between judgements.

§1

Peacocke's proposed accommodation of conceptual normativity trades on the relation between normative constraints at the level of sense and normative constraints at the level of reference. He holds, rightly, that normativity at the level of reference is less puzzling than normativity at the level

of sense. His strategy, therefore, is to elucidate the level of sense in terms of the level of reference. There are three distinct steps in Peacocke's reconciliation of conceptual norms with naturalism (pp.139-140). The first step is giving, for any given concept, a non-normative account of what it is to possess that concept (its possession conditions). The second step is to provide a determination theory explaining how the semantic value of a given concept is determined from its possession conditions. The third step is explaining how the conjunction of possession conditions and determination theory can bestow normative status on certain principles about judgements involving that concept.

Peacocke applies the model in detail to the concept plus. The possession conditions of plus are given in terms of a thinker finding certain inferential transitions primitively compelling, by which he means that the thinker a) would find such transitions to be self-evident; b) would not find them primitively compelling because they were inferred from other premises and/or principles; c) need not take the correctness of the transitions to be answerable to anything else. The transitions invoked in the possession conditions of plus are those that feature in recursive formalizations of arithmetic. So, the account of the possession conditions for plus is as follows (where m and n are natural numbers and 's(n)' picks out the successor of the natural number n):

Plus is that concept C to possess which a thinker must find primitively compelling instances of transition (i) and principle (ii)

(i) $(m \text{ C } k) \text{ is } n$
 $(m \text{ C } s(k)) \text{ is } s(n)$

(ii) $(m \text{ C } 0) \text{ is } m$

and he must find them primitively compelling because they are of that form (pp.137-8).

The 'must' is modal rather than normative, and the possession conditions are intended to describe the attitudes which subjects who possess the concept plus take towards inferences involving that concept.

The next step is to provide a determination theory explaining how the semantic value of plus is determined from its possession condition. The determination theory that Peacocke gives for the concept plus takes the following form:

S/V Plus The semantic value of plus is that function on the natural numbers that makes transitions of the form (i) and (ii) always truth preserving (p.136).

S/V Plus is an illustration of a general point about the relation between a given concept's possession conditions and the determination theory governing that concept, namely, that the determination theory for that concept, together with relevant facts about the world, should fix a semantic value in such a way that the judgements mentioned in the possession conditions of the concepts should be correct.

If **S/V Plus** is true (that is, if it does indeed correctly determine the semantic value of plus) then instances of transition (i) and principle (ii) will be correct for the arithmetical function that it picks out. Correctness is a normative notion, and so Peacocke concludes that the determination theory confers normative status upon instances of (i) and (ii). The relevance of this rests upon the final requirement in the statement of the possession conditions, which is that the thinker grasping the concept of plus should find instances of (i) and (ii) primitively compelling because they are instances of (i) and (ii). So, the fact that a thinker identifies an instance of (i) or (ii) as an instance of (i) or (ii) is a reason for his judging contents containing plus. If that identification is correct then the thinker's reason for his judgments are good reasons – "certain reasons for judging contents containing plus are certified by this account as good reasons" (p.138). The model is intended to capture in a full-blooded way the idea that concept possession is a normative matter, because it rests upon the idea of an internal connection between concept possession and the rationality of certain practices of belief formation involving that concept.

§2

The crucial claim is that the possession conditions and determination theory taken together give normative status to certain principles about judgments involving that concept. It is the fact that **SV/Plus** picks out an arithmetical function validating precisely those inferential transitions which are found primitively compelling because of their form which Peacocke thinks accounts for the normative dimension of the concept plus. A general principle is underwriting the whole process – namely, that the semantic values determined by a determination theory will ensure that the transitions found primitively compelling will indeed 'track the truth'.

Peacocke's definition of primitive compulsion does not require that all and only the inferential transitions which are psychologically compelling are truth-preserving (nor its converse). The claim is simply that possession of a given concept rests upon a thinker's finding primitively compelling the inferential transitions mentioned in the possession conditions of that concept. This is an attractive feature of Peacocke's account. We find lots of things self-evident (or primitively compelling), not all of which really are true (or valid, in the case of inferential transitions). And there are good evolutionary reasons for this. Evolutionary fitness is as much a function of having useful beliefs as it is of having true beliefs, and the two need not always coincide because there can be massive computational advantages in working with principles and assumptions that are roughly true but not strictly true. It seems fair to say that we find Euclidean geometry to be self-evidently true, and let us assume that this is a product of evolution. There are perfectly good adaptive reasons why Euclidean geometry should have been selected for. The fact remains, though, that contemporary physics does not hold Euclidean geometry to be true of physical space. Although it is close enough to being true to guide us effectively in our ordinary dealings with the world, it is not an accurate specification of the structure of space. Nonetheless, as far as natural selection is concerned it is the practical dimension that is paramount. Evolutionary fitness rests upon cognitive functions that are useful, and usefulness does not necessarily 'track the truth' (Nozick 1993).

Nor, of course, is geometry an isolated example. The domain of the logical connectives is equally susceptible to a wedge being driven between inferential transitions being found primitively compelling and their being truth-preserving. To set the scene, note that an account of the possession conditions of if. . .then will have to include a disposition to find instances of modus ponens and modus tollens primitively compelling, as well as a disposition not to find the instances of affirming the consequent and denying the antecedent primitively compelling. Now, there is compelling evidence that these possession conditions are not reflected in ordinary conditional reasoning. Some of this evidence is anecdotal and familiar from everyday experience. For example, to infer from the promise "if you hang the washing out I'll cook dinner" the hidden threat "if you don't hang the washing out I won't cook dinner" is blatantly to deny the antecedent – but frequently pragmatically valid. Such anecdotal evidence is backed up by the wide range of experimental evidence showing that subjects, even formally sophisticated subjects, have severe problems with all aspects of

conditional reasoning except mastery of modus ponens. One well-known study showed that the only basic conditional argument that a set of subjects could apply reliably was modus ponens. There was a noticeable tendency to affirm the consequent and deny the antecedent. 21% of the subjects said that an argument which denied the antecedent would always be valid – while the figure was 23% with affirming the consequent (Rips 1983). Also quite remarkable was the fact that 43% failed to see that modus tollens arguments were always valid. The well-known Wason selection task is another case in point (Johnson-Laird and Wason 1977). Subjects were shown four cards illustrated below. Half of each card was obscured and the subjects were asked which cards they would have to see in full to determine the truth of the indicated conditional.

INSERT FIG. 1

If there is a circle on the left then there is a circle on the right

The answer, of course, is that cards (a) and (d) must be unmasked. Unfortunately, this was realised by only 5 out of the 128 college students in the experimental group. Almost all the 123 who got it wrong failed to see the need to turn (d) over.

In A Study of Concepts Peacocke says relatively little about the possession conditions for the concepts associated with connectives like if. . . then, but it is clear that they are to be treated along the lines proposed for the concept plus. That is to say, their possession conditions will specify a set of inferential transitions which must be found primitively compelling (and for some of those concepts, notably the concept if. . . then, it will be natural to specify certain inferential transitions which must not be found primitively compelling). Here is a sample set of possession conditions for the concept if. . . then.

If. . . then is that concept * to possess which a thinker must

A) find transitions of the following forms primitively compelling, and must find them primitively compelling in virtue of their form

i) $\frac{P * Q \text{ and } P}{Q}$

ii) $\frac{P * Q \text{ and not-}Q}{\text{not-}P}$

B) and must not find transitions of the following forms primitively compelling

- iii) $\frac{P * Q \text{ and } Q}{P}$
- iv) $\frac{P * Q \text{ and not-P}}{\text{not-Q}}$

These possession conditions merely codify within Peacocke's framework the entirely reasonable assumptions that a possessor of the concept if. . . then should have mastered the inference forms of modus ponens and modus tollens and should not be tempted either to affirm the consequent or to deny the antecedent.

It is uncontroversial that the experimental results show that it is frequently the case that thinkers fail on many occasions to find primitively compelling those inferential transitions which it is constitutive of possession of the concepts of certain key connectives that they must find primitively compelling – and, moreover, find primitively compelling precisely those inferential transitions (like the fallacy of affirming the consequent) which a statement of the possession conditions will maintain that they must not find primitively compelling. It is also the case, it seems to me, that those thinkers possess the concepts in question and, moreover, that they are rational. To say that subjects misapply the rules governing if. . . then is not automatically to condemn them of irrationality (pace Stich 1990). There are all sorts of ways in which the subjects' inferential behaviour might be explicable so that it does not come out as irrational – they might be employing one of the various pragmatic reasoning schemas or heuristics identified by workers in the area, for example (Cheng and Holyoak 1985, Oaksford and Chater 1994). But if this is the case then the proposal that statements of the possession conditions for the relevant concepts are purely descriptive starts to look untenable. Read descriptively, the possession conditions must provide a prediction that is (by and large) accurate of the attitudes that thinkers who possess the concept will take to judgements involving that concept. But then, when read descriptively, the possession conditions are straightforwardly falsified by the experimental results.

No such problem arises, of course, if the possession conditions are specified normatively, along the following lines:

X is that concept C to possess which a thinker ought to find instances of transitions $T_1. . . T_n$ primitively compelling because they are of those forms.

Statements of norms are obviously not defeated by the fact that thinkers subject to those norms fail on occasion to abide by them, even when that failure is regular. So, in the cases under consideration, specifications of possession conditions must take the normative rather than the descriptive form, which of course means that Peacocke's proposed solution to the problem of naturalistic accommodation cannot be accepted.

There are, as far as I can see, only three possible ways of avoiding this conclusion. The first is to deny that a specification of the possession conditions for if. . . then ought to specify either the desirability of those (valid) inferential transitions which the experimental subjects fail to find primitively compelling or the undesirability of those (invalid) transitions which they do find primitively compelling. This would mean specifying the possession conditions of if. . . then without specifying either the unacceptability of affirming the consequent or the acceptability of modus tollens. The only way I can see of doing this would be hold that the possession conditions for if. . . then are given by tacit grasp of the truth-table for the connective ' \rightarrow '. Passing over the many problems associated with whether or not if. . . then is truth-functional, one might expect the relevant possession conditions to include at least the disposition to find it primitively compelling to reject all those applications of if. . . then in which the antecedent seems true and yet the conclusion false. But it is precisely this rule that subjects fail to apply in the selection task. Without turning over the card in (d) it would be impossible to find out whether or not (d) falsifies the conditional in virtue of making the antecedent true and the consequent false. It follows, therefore, that if a subject did find it primitively compelling that no application of if. . . then could be true if it had a true antecedent and false consequent that subject would turn over the card in (d) – which of course is what they fail to do.

A second possibility would be to deny that the notion of primitive compulsion is applicable in the experimental paradigms, because subjects are not assessing inferential transitions in virtue of their form. This response might perhaps be suggested by analyses of the selection task on which subjects are applying pragmatic reasoning schemas, rather than misapplying rules of deductive inference (Cheng and Holyoak 1985). But it is clearly not applicable to the experimental paradigms in which subjects are asked to assess the formal validity of a deductive inference. Moreover, there

seem to be insuperable problems in specifying when subjects are assessing inferences in virtue of their form and when they are not. It seems arbitrary to suggest that whenever subjects make selection-task-type mistakes they are always assessing inferences non-formally.

This brings us to the third strategy which denies that the thinkers who make the mistakes cited in the experimental literature really do possess the concept if. . . then. On reflection, however, this seems little more attractive. It is well known that the subjects who make the classic errors in experimental situations can be brought to realise the mistakes they have made. When it is pointed out to them that, for example, it is illegitimate, with respect to a given conditional, to derive the negation of the consequent from the negation of the antecedent, and they recognise the truth of what they are told, they are not learning anything new. They are merely being reminded of the correct conditions for applying a concept which they had possessed all along.

In fact, this offers a new and perhaps better way of putting the fundamental problem with Peacocke's solution to the problem of naturalistic accommodation. If Peacocke's possession conditions are read descriptively, then no room is left for the important distinction between not possessing a concept and failing correctly to apply a concept which one nonetheless does in fact possess. If a thinker does not find primitively compelling the inferences that he must find primitively compelling, or finds primitively compelling inferences which he must not find primitively compelling (on both occasions reading 'must' descriptively rather than normatively), then by Peacocke's lights he fails to possess the concept. But it seems clear that either of things could happen and yet it still be true that the thinker possesses the concept. His possession of the concept is manifest in the fact that he can be brought to see the mistakes that he has made. A natural way of putting this would be that he is responsive to the norms that govern the correct employment of the concept in question. But this, of course, makes sense only if we read the possession conditions governing the concept if. . . then as normative rather than descriptive.

This distinction between not possessing a concept and failing correctly to apply a concept which one nonetheless does in fact possess seems also to block the application here of an important distinction which Peacocke makes in another context (Peacocke 1992, p. 27-33). As Burge has stressed, a thinker can truly be ascribed propositional attitudes in a way that employs within an

oblique context a word of which he lacks a complete understanding. Peacocke is rightly impressed by this, and takes it as effectively a refutation of the view that a thinker who has attitudes to thoughts containing a given concept must fulfill its possession conditions. Consequently, he maintains that the attribution conditions of a concept are significantly weaker than the possession conditions. He formulates a specimen set of attribution conditions for the concept red. I extrapolate from them to the following attribution conditions for the concept if. . . then:

- (a). The subject is willing sincerely to assert some sentence of the form "if____, then____" containing the words 'if. . . then' (or some variant or translation thereof).
- (b). The subject has some minimal knowledge of the rules governing the correct application of if. . . then (eg an ability to employ modus ponens).
- (c). The subject defers in his use of the word to members of his linguistic community.

Peacocke might claim, therefore, that experimental subjects who fail to satisfy the possession conditions for if. . . then can nonetheless truly be ascribed attitudes to thoughts containing that concept. In his terminology such attributions would be deference-dependent. This would allow him to maintain a strictly descriptive reading of the possession conditions for if. . . then without being forced to maintain that the experimental subjects have no grasp at all of the concept if. . . then.

It seems to be an essential corollary of "the division of linguistic labour". I am not convinced, however, that it can be unproblematically applied here. The problem comes with the notion of suitable deference to members of the linguistic community. The deference which must be shown by anybody to whom the concept if. . . then is to be attributed is a deference based upon ignorance. This follows, indeed, from the assumption that such an individual has an incomplete or mistaken grasp of the concept in question. But this is not the right way to characterise the response of an individual who is brought to appreciate an error in conditional reasoning. It is perfectly possible for an individual who has consistently misapplied the concept if. . . then to be brought to appreciate the nature and consequences of that misapplication in a way that it is natural to describe as bringing to bear his mastery of the possession conditions of the concept if. . . then. One can make consistent mistakes in conditional reasoning while still being capable of appreciating that they are mistakes, rather than just being ready to defer uncomprehendingly to the judgements of an experimenter or a

logician. To deny this is to deny the distinction between not possessing a concept and possessing it but failing to apply it properly.

There is a dilemma, therefore, for any attempt to use theoretical notions like that of a thinker's finding an inferential transition primitively compelling as part of a naturalistic accommodation of the concepts corresponding to the logical constants. If the notion of primitive compellingness is to be naturalistically acceptable it must be read as a descriptive truth about the judgemental dispositions of possessors of the relevant concept. As the example of if. . . then seems clearly to show, however, there are canonical inferential transitions which must feature in any statement of possession conditions but which possessors of the concepts do not find primitively compelling (on the descriptive reading of 'primitively compelling'). If, on the other hand, the canonical inferential transitions in the possession conditions are read normatively, the anomaly disappears. But this comes at the price of commitment to a normative specification of possession conditions.

§4

It would be folly to derive from this any overarching conclusions about the impossibility of a naturalistic accommodation of conceptual norms in general. What does seem clear, though, is that a new strategy is required in trying to provide a naturalistically acceptable account of conceptual norms, and one interesting suggestion emerges out of the discussion in the previous section. We need to accommodate the important distinction between not possessing a concept, on the one hand, and failing correctly to apply a concept which one nonetheless does in fact possess, on the other. Once we have created room for this distinction then we may judge that a subject can come to recognise that he is misapplying a concept which he nonetheless possesses. This is a form of responsiveness to the norms governing the use of the concept in question. Perhaps it might be possible to give this sort of responsiveness a naturalistically acceptable characterisation. Instead of having possession conditions formulated purely in terms of lawlike generalizations about the judgements which a concept possessor will find primitively compelling, a naturalistic theory might move towards a statement of possession conditions incorporating lawlike generalizations about the dispositions which possessors of a given concept might have in certain specified circumstances to modify judgements which occupy the same role relative to a given concept as the fallacy of

affirming the consequent does to the concept if. . . then. Those circumstances might need to be specified in social terms, so that a crucial element in what it is to possess a given concept might be a sensitivity to the way in which that concept is employed within a given community. But I leave the development of that idea for another occasion.

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