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A Study of Concepts. Christopher Peacocke. Cambridge, Massachusetts: MIT Press, 1992, 266 pages, \$29.95 hard.

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This is a difficult book. It is densely written and argued, in a turgid prose replete with technical terms and neologisms, and sprinkled with symbols. It's recommended only for those willing and able to study it very deeply and carefully. Since it's impossible here to grapple with its argument fully, what I'll do is present a few of its main ideas to give a feel for it as a whole, then raise some general questions.

Concepts, Peacocke notes, have long been an important domain of philosophical inquiry. While more recently, we could add, empirical psychology has focused on them as well, what Peacocke tries to do in this book is to give an account of what it is, as a strictly constitutive (thus philosophical) matter, to possess a given concept. Indeed, he sees this task as prior to any empirical inquiry, since without a constitutive account we can't give full, or fully justified, answers to empirical questions concerning (say) concept acquisition and information processing. (Though one wonders if the "justification" must be so thoroughly one way: mightn't an empirically motivated theory of concept acquisition, for example, usefully inform a "constitutive" theory? See remarks below.)

In the first chapter, then, Peacocke starts by declaring his intent to respect the "Principle of Dependence": "There can be nothing more to the nature of a concept than is determined by a correct account of the capacity of a thinker who has mastered the concept to have propositional attitudes to contents containing that concept" (p. 5). This principle not only reveals the close connection between concepts and the intentional states in which they largely earn their keep, it also allows one to say in a single account both what individuates a particular concept and what it is to possess that concept. The "general form" of such an account is this: "Concept F is that unique concept C to possess which a thinker must meet condition A(C)" (p. 6). In short, concepts are individuated by their "possession conditions." Much of the book aims toward spelling out this claim for various concepts.

Consider, for example, the concept *conjunction*. It is that concept to possess which a thinker must find certain sorts of transitions (i.e., inferences) "primitively compelling," and do so precisely because they are of the appropriate forms. To say the thinker finds such transitions primitively compelling, meanwhile, is to say he finds them compelling, he does not do so because they're inferred from other premises or principles, and needn't take the correctness of the transitions as

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answerable to anything else. Peacocke offers similar treatments, early on, of the concepts *universal quantification* and *red*.

The possession conditions for red are, in fact, especially interesting, as they're given via such terms of art as "singular perceptual–demonstrative modes of presentation" in "predicational combinations," with objects located in "red"¹ regions of the subject's visual field, and they require, further, that the thinker takes both the visual conditions to be normal and his perceptual mechanisms to be working properly. The terminology requires careful clarification, which Peacocke provides to a degree. But the latter requirements raise a worry: whereas an agent's perceptual conditions and mechanisms may have to be working properly for him to possess the concept *red*, must he actually *take* that to be the case in order for him to possess the concept? Or does that require too much cognitive machinery for a concept as potentially simple (and accessible to creatures low on the evolutionary scale) as red?

Peacocke also discusses in Chapter 1 the intimate relationship between concepts and reference. "Concepts," he writes, "are individuated by their possession conditions; the possession conditions mention judgments of certain contents containing the concepts; judgement necessarily has truth as one of its aims; and the truth of a content depends on the references of its conceptual constituents" (p. 17). For each concept we will need, then, a "determination theory," getting us from the concept's possession conditions to its extension, and doing so "in such a way that the belief-forming practices mentioned in the concept's possession condition are correct" (p. 19). This latter constraint introduces the notion of norms, which Peacocke explores in Chapter 5, where he argues that his theory is "broadly naturalistic" despite its normative character.

Chapter 2 next attempts to explain some properties of thought by tracing them back to the nature of possession conditions. Foremost is an account of what Fodor calls "systematicity," viz. that property in virtue of which, if a thinker is capable of thinking a given thought, she'll also be capable of thinking certain thoughts systematically related to that thought. (Cf. Gareth Evans' Generality Constraint.) Peacocke provides what he calls a "Referential Explanation" of this property: since, as above, possession conditions contain judgments aimed at truth, and since to know what it is for a given thought to be true presupposes grasp of "the semantic significance of the mode of combination of [its] constituents" (p. 43), fulfilling possession conditions for concepts will entail that one's thought be "systematic." The rest of the chapter elaborates upon this reasoning, as well as traces its links to Wittgenstein's *Tractatus*.

Chapter 3 then addresses the problem of how to formulate possession conditions for perceptual concepts. Peacocke here introduces entities called "scenes," "scenarios," "spatial types," and "protopositions," whose basic purpose is to be a "resource for anchoring notions of conceptual content in some level of nonconceptual content" (p. 66) — i.e., roughly, in experience which seems better analyzed in terms of the subject's abilities rather than her concepts. Chapter 4 next explores the metaphysics of concepts, attempting to legitimize an ontology which includes concepts along the same lines as other familiar attempts to explicate how discourse concerning abstract objects, most notably numbers, may apply to the empirical world. As mentioned above, Chapter 5 examines the normative aspects of concepts;

¹The prime following the word "red" indicates a sensational property, as opposed to a representational one. (Cf. Peacocke [1983, p. 5] where this distinction is developed.)

Chapter 6 analyzes the concept *belief*, the possession conditions for which Peacocke divides into separate clauses according to whether belief is being ascribed first or third personally. Chapter 7 argues that an explanatory, empirical psychology should "explain why a thinker meets the possession-condition for a concept she possesses" (p. 197). And Chapter 8 concludes the book by showing how Peacocke's theory allows us to eliminate spurious hypotheses (e.g., concerning person fission, inverted spectra, absolute space) without any commitment to verificationism.

I hope these bare sketches provide a feel for the style of philosophizing in this book. I now want to raise a few general worries.

First, many of the possession conditions discussed in the book require that the subject make certain judgments, or find such judgments "compelling," but Peacocke doesn't provide an analysis of what this would entail. This is important because such an analysis might turn out to undermine the foundational nature of his project, as outlined above. For we're not interested here in what it is for a subject to possess the concept *compelling* but rather for her actually to be compelled by something, and this may be answerable only (or at least primarily) via empirical psychology. But if so, then we'd need the empirical psychology *before* we could have a full, or fully justified, answer to the constitutive (i.e., philosophical) question of what it is to possess a concept — exactly contrary to the way in which Peacocke conceives his project.

Moreover, Peacocke's goal of formulating possession conditions for concepts seems less likely to succeed the further we get from relatively well-defined concepts like those from logic. Indeed his treatment of *conjunction* at the beginning is by far the most persuasive in the book; if it's already so difficult to state explicitly acceptable possession conditions for concepts like *red* and *belief*, how much more difficult will it be to do so for perhaps even more elusive concepts such as *capitalism*, *quark*, and *a priori*?

In fact, it may not just be difficult, it may even be impossible, at least if we take seriously some popular ideas and results from cognitive psychology. Ignoring some caveats, it's widely accepted that most if not all concepts are best understood as having a "graded structure," a structure which manifests itself empirically in a variety of ways (e.g., in memory, learning, reasoning, and recognition; for overview cf. Smith and Medin [1981]). Such a view encourages one to subscribe to a "slippery slope semantics," i.e., one which allows a great deal of rather open-ended flexibility in answering the question whether a subject possesses a given concept. But now Peacocke, in holding both that possession conditions individuate concepts and that we can formulate them for many (most? all?) concepts is committed to holding, in effect, that we can provide necessary and sufficient conditions for concept possession — a claim which a slippery slope semantics seems directly to undermine. This problem is also implicit in his treatment of systematicity, since he ignores results indicating that the construction of complex concepts from simpler ones often requires lots of world knowledge and flexibility, far above and beyond what the possession conditions for the components could contain (cf. Lakoff [1987]; Murphy [1988]).

So these are some general problems for a very difficult book. Peacocke is no doubt a top-rate philosopher, but he's clearly a philosopher's philosopher: this is a book which will appeal only to the most dedicated professional philosophers. All others open the cover at your own risk.

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