Rationale and Maxims in the Study of Concepts

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Is there any good reason for thinking that a concept is individuated by the condition for a thinker to possess it? Why is that approach superior to alternative accounts of the individuation of concepts? These are amongst the fundamental questions raised by Wayne Davis's extensive and detailed discussion of my views, and his presentation of an alternative treatment (Davis, 200?).[1] My plan here is to discuss the rationale for the type of approach I have advocated, and then to formulate some maxims a theory of concepts should respect.

Some of these maxims are one that Davis would endorse too, and I will be arguing that the theory of possession conditions can respect them. Other maxims I will defend are incompatible with some of his points. Some of the maxims are specific to concepts and the theory of thought. Others are drawn from general metaphysics, and apply to an arbitrary ontology, be it of concepts or any other kind of entity.

Rationale

Suppose concepts C and D are the same in respect of which transitions in thought a thinker must, as a constitutive matter, be rationally willing to make if he is to possess the

concept, where the transitions in question involve a judgement whose content contains

the concept. Such a transition may be from a mental state to a judgement; it may be a

transition in the reverse direction. The transition may be inferential, in which case the

content containing the concept may be in the premise, or it may equally be in the

conclusion. The transitions may be specified in terms that require that the thinker stand in

certain environmental relations. The terms may also involve a local holism. Suppose also

that the concepts C and D receive the same account of how the semantic value of each is

determined, together with the world, from these transitions. Under these conditions, could

C and D be distinct?

I suggest that they could not. The point is not one of epistemology or

verificationism, but rather has a constitutive status. C will be identical with D in these

circumstances because concepts have the nature they do on account of their role in

rational explanation by a thinker's reasons. It is part of the specification of the example

that C and D have the same part to play in such rational explanation; that is, they have the

same possession condition.

Slicing more finely than constitutive role in rational explanation is legitimate,

indeed required, for all sorts of other purpose. If one is concerned with nature of

representations in a subpersonal language of thought, or with the computational or

associative mechanisms that operate on such representations, it is important to slice more

finely, just because one and the same concept may be differently represented, and have

different computational or associative procedures, operating on its mental

representations, in different individual thinkers. We have rightly become very familiar in

psychology, linguistics and computational theory with the idea that any given mental

process can be described at many different levels of classification. Different laws, explanations and counterfactuals will be associated with the different levels of classification. The notion of a concept that is individuated by its possession condition at the level of constitutive role in rational explanation is at a level of generality that is above that of subpersonal mental representation.

If this were not so, the practice of rational explanation by citing attitudes involving concepts would be very different. If concepts sliced more finely than rational role, then in explaining why, for instance, a person believes what he does, it would not be enough to cite his rational grounds in, say, his memories and what he perceives now to be the case. More information would be needed, something that slices finer than our actual concepts as rationally individuated, and shows that he has a particular type of mental representation underlying the rational concept. It seems to me that no such additional information is needed, and that accounts of concepts ought to respect this fact. I have made the point for the particular example of subpersonal mental representations, but the same point could be made against any other proposed addition beyond constitutive rational role.

These points provide the resources for answering Davis's question "Why should we assume that having a certain possession condition is what makes a concept the concept it is?" (MS 4). Davis notes that we could state the condition for an arbitrary thing to be a brain in terms of what condition a person would have to meet to possess a brain; but, he says, and I agree, brains are not individuated by their possession conditions. The difference between the cases is that we can say what it is for something to be a brain without mentioning or requiring that a person possesses it. To be a brain is,

constitutively, to be something with a certain biochemical composition, natural origin, and psychological and physiological function. But to be a concept is simply to have a certain role in rational transitions in thought, in the mind of a rational thinker. There is nothing, at the constitutive level, to being a concept beyond that role, provided the role is correctly specified. This point applies whether not the role is reductively specified. It would not be reductively specified, on for example an interpretationist view such as that of McDowell, under which to possess a given concept *C* is to be maximally rationally intelligible under the supposition that the thinker possesses that very concept. It could still be the case that there is nothing to being the concept *C* beyond that non-reductively specified role. These points are also consistent with the fact that a thinker's possession of a concept must be realized in something or other. They are consistent with that point because the realizing state is neither identical with possession of the concept, nor with the concept itself.

If we accept that a thinker's possession of a concept must be realized by some subpersonal state involving a mental representation, why not say simply that the concept *is* the mental representation? Just this proposal is made by Margolis and Laurence (1999, 77). Mental representations that are concepts could even be typed by the corresponding possession condition of the sort I favour. This seems to me an entirely legitimate notion of a kind of mental representation; but it is not quite the notion of a concept. It can, for instance, be true that there are concepts human beings may never acquire, because of their intellectual limitations, or because the sun will expand to eradicate human life before humans reach a stage at which they can acquire these concepts. 'There are concepts that will never be acquired' cannot mean or imply 'There are mental

representations which are not mental representations in anyone's mind'. If concepts are individuated by their possession conditions, on the other hand, there is no problem about the existence of concepts that will never be acquired. They are simply concepts whose possession conditions will never be satisfied by any thinkers.

Maxim on Relations between the Cognitive and the Semantic

Davis writes, "… being a psychological property, the inferential role of a concept cannot account for its semantic or logical properties. Hence the inferential role of the concept of conjunction does not individuate it." (MS 21). Davis and I agree that a good account of the nature of a concept must account for its semantic and logical properties. The dispute is over whether what I have offered, in the case of the concept of conjunction, does account for those properties. I would state a stronger maxim on the relations between the cognitive and the semantic thus:

> The cognitive and semantic dimension of a concept must each be recoverable
> from the other; and the principles by which they are recoverable must have a
> rationale founded in the nature of concepts in general.

I aim to meet the demand formulated in this maxim as follows. Rational judgement aims at truth (on a stronger view, it aims at knowledge). Rational transitions aim at truth-preservation (on the stronger view, they must be capable of knowledge-preservation). Outright acceptance of a transition would not be rational unless it were

obviously truth-preserving. All the transitions outright acceptance of which are mentioned in the possession condition for a concept must be always truth-preserving, that is, truth-preserving whatever instance is in question. In the case of the possession condition for conjunction that I offered in *A Study of Concepts* (Peacocke 1992), that requires conjunction to have the classical truth-table for conjunction.

This argument gives a model for establishing recoverability of the semantic dimension of a concept from its cognitive dimension. It also gives a rationale, founded in the aim of judgement, for a particular mode of such determination. Thus when Davis writes "But if the possession conditions individuate, they should validate the determination theory" (MS 19), I would reply that they do.

In the reverse direction, we have to show the recoverability of the cognitive dimension from the semantic. If we specify necessary and sufficient conditions for the truth of $A\&B$ in terms of the truth or falsity of A and of B, those conditions clearly make rational the transitions mentioned in the possession condition I offered for the concept of conjunction. We can think of those semantic rules as having a fundamental status: of showing the sense, rather than merely stating one truth amongst others about conjunction. Some restriction to such fundamental specifications is evidently necessary if we are to have recoverability in this direction. One and the same truth-function, considered purely extensionally, can be picked out by many different senses. Let "↓" be the symbol for what is sometimes (unhappily) called joint denial: $A{\downarrow}B$ is true iff A is false and B is false. A Thought of the form $A\&B$ is a priori truth-functionally equivalent to its complex counterpart $((A{\downarrow}A){\downarrow}(B{\downarrow}B))$, but these two Thoughts certainly differ in cognitive significance – their equivalence has to be worked out. The truth-tables for conjunction

and for the complex operator *((...↓...)↓(---↓---))* are the same, but the senses of the simple and complex operators are distinct. If, however, we regard the truth-conditional rule for the joint denial operator as a fundamental specification, the transitions it determines, as constitutive of the concept, would rather be these:

$$\frac{\sim A \quad \sim B}{A \downarrow B} \qquad\qquad \frac{A \downarrow B}{\sim A} \qquad\qquad \frac{A \downarrow B}{\sim B.}$$

These are distinct from the transitions mentioned in the possession condition for conjunction, and are equally determinative of the sense of joint denial. We thereby respect the maxim's demands about recoverability.

Under this approach, the cognitive and the semantic dimensions of concepts are inextricably intertwined. It is not right to regard either dimension as more fundamental than the other. For some purposes, our primary concern may be with the cognitive; but since the judgements fundamental to the epistemic dimension aim at truth, the level of reference remains in the picture. I am, then, committed to disagreeing with Davis in the second sentence of this passage: "Inferences with "spurious" concepts like *tonk* may not be truth-preserving even if they are primitively compelling. But if, as Peacocke maintains, a concept is what it is in virtue of its possession conditions, and possession conditions are determined by acceptance conditions, then what inferences a subject finds primitively compelling has to determine whether it is genuine or spurious" (MS 20). On

my view, it is intrinsic to the very nature of a concept that a possession condition, possibly together with the world, determines a condition for something to be its semantic value. Since judgement aims at truth, a spurious concept for which there is no such condition is one for which it has not been specified even what it is for judgements containing it to be true. Correspondingly it has not been specified what it would be to aim at truth in such (would-be) judgements. Requirements on concepts at the level of reference and truth are not an optional add-on, but are intrinsic to their cognitive character.

We also need to address the question of how the maxim on cognitive-semantic relations is to be respected in the case of nonconclusive transitions that are mentioned in a possession condition. The transition from a perceptual experience to an observational judgement made rational by the perceptual experience might naturally be cited as an illustration of this case. These issues are at the frontiers of our understanding, and here I can make only a few brief remarks. First, there are formulations of the possession conditions for observational concepts on which they *are* conclusive, for they involve the transition from perceiving an object to have a certain property to judging that it does. Perceiving x to be F is a factive notion. If you move from that state to a judgement of x that it is F, the transition will never lead you to a false belief. What you may not know conclusively is instead whether you really are perceiving x to be F. The question of rationality is that of taking one's experience at face value, rather than that of making a nonconclusive transition in thought. Since the rationality of taking experience at face value is a phenomenon present even for the nonconceptual representational content of experience, a very hard line would be to maintain that this issue of rationality, though

obviously a significant philosophical problem, is simply not one specific to the theory of conceptual content.

I think we can, however, do better than simply shunt the problem off to some other part of philosophy. Indeed we ought to do better, because there does not seem to be anything wrong with specifying the possession condition for an observational concept in terms of transitions to observational judgements from suitably corresponding perceptual experiences taken at face value, where the notion of perceptual experience employed in the formulation does not in itself immediately imply veridicality.

In *The Realm of Reason* I argue that the least complex explanation of the occurrence of a perceptual experience with a basic observational content is an explanation that involves the correctness of that content (Peacocke 2004, Chs. 3 and 4). The correct explanation of an event is not always the least complex, so we are not here given a conclusive basis for a transition to an observational judgement. But I do suggest that there is an a priori, defeasible entitlement to take the basic observational content of perceptual experience at face value because it is objectively and a priori more likely that events have a less complex rather than a more complex explanation – that they come about in easier, rather than more complex, ways. Such a position needs extensive argument: here I am just dogmatically stating its conclusion. My point at present is just that if this approach is correct, it suggests a means of recovering the semantic from the cognitive in the nonconclusive case. Suppose a thinker has an experience as of an object x having the observational property F. Then the concept F has a semantic value that maps x to the True just in case that object has that property in the least complex way that it can

come about that the subject enjoys such an experience. There is further elaboration of these notions in *The Realm of Reason* (Peacocke 2004).

We also have to sketch an argument for the reverse direction of recoverability, from the semantic to the cognitive, in the nonconclusive treatment of the perceptual case. We can partially individuate an observational concept by saying that it maps an object to the True when it (or some nonconceptual analogue) is correctly represented as instantiated in a certain range of perceptual experiences. If we can establish that it is, defeasibly, rational to take such experiences at face value, it will correspondingly be rational for a thinker to make an observational judgement involving that concept when an experience within that range occurs to her. This approach to recoverability is available even if the basis of defeasible perceptual entitlement is something other than the reduction of complexity that I have proposed.

Maxim on Uniformity

Davis and I would agree on at least the first part of this maxim of uniformity:

> There must be some level at which it is the same kind of condition that individuates a complex concept and that individuates an atomic concept; and this must apply both to the cognitive dimension of a concept, and to the semantic dimension.

Davis, however, doubts that my theory can respect this maxim: "Peacocke's theory that all concepts are individuated by possession conditions is incompatible with the fundamental fact that some concepts are complex" (MS 6). I am not sure why Davies thinks there is such an incompatibility; in any case, I do not think it exists. A complex concept is individuated by its possession condition, which is determined by the possession conditions of its constituents and their mode of combination. (In *A Study of Concepts*, I adopted a label suggested to me by Martin Davies, and called the operation of working out the possession condition of the complex concept from its constituents one of 'multiplying out' the possession conditions of the constituent concepts.) To take an extremely simple case: the possession condition for the simple predicational combination *hungry man* is fixed from the possession conditions for *hungry* and *man*, in the way appropriate to predicational combination. If, say to possess the concept *hungry* involves being willing to judge of a given object that it is hungry when conditions H are met, and to possess the concept *man* involves being willing to judge of a given object that it is a man when conditions M are met, then possessing the concept *hungry man* involves being willing to judge of a given object that it falls under that complex concept when both conditions H and M are met. Similarly, if there are rejection conditions in the possession condition for one of the constituent concepts, they enter the rejection conditions for the complex concept *hungry man*. Other modes of combination bring other complexities; but the general model should be clear.

Davis also implies that on the semantic dimension I do not respect uniformity in respect of complex and simple concepts. He quotes me as saying that for a complex concept to be composed in a certain way from given constituents just is for the semantic

value of the concept to be determined in a given way from the semantic value of its atomic constituents. He goes on to remark: "Since semantic values are things external to the thoughts, relations among semantic values cannot explain thought structure, which is a relation among the components of a thought" (MS 21-2). We must distinguish sharply. There are

(a) relations between semantic values, which, as Davis says, are in general thought-independent things in the world;

and there are

(b) relations between the *condition* for something to be the semantic value of the complex concept and the conditions for things to be the semantic values of its atomic constituents.

It is the relation between conditions, (b), that I am appealing to in explaining conceptual structure, not the relations (a) between semantic values themselves. I am appealing to the constitutive point that what it is for something to be the semantic value of *hungry man* is for it to be (in the Fregean framework) the function that maps an arbitrary object x to the True just in case the function that is the semantic value of *hungry* maps x to the True and the function that is the semantic value of *man* maps x to the True. In the case of a complex concept, as in the case of a simple concept, the concept can be individuated by

the fundamental condition for something to be its semantic value. The maxim on

uniformity is respected at the semantic level as well as the cognitive level.

Maxim on Composition and Natures

I suggest that

> Fs can be composed of Gs even if what it is to be a G is to be explained
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> philosophically in terms of the capacity of a G to be a constituent of an F.

A corollary of this maxim on composition and natures is that

> Sometimes the nature of Fs is to be explained philosophically in part in terms of
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> their relations to Gs; and the nature of Gs is to be explained philosophically in
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> terms of their relations to Fs; that is, their natures are to be elucidated
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> simultaneously, and neither kind is ontologically or philosophically prior to the
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> other.

Davis seems to me not to respect this maxim when he writes, that on his own theory,

"concepts are components of thoughts. Peacocke seems to accept this definition, as we

have seen. But his theory, I submit, is incompatible with it" (MS 21). Davis's idea is that

given the agreed role that propositional attitudes (and judgement in particular) play in my

account of the individuating possession conditions for concepts is in tension with the thesis that concepts are constituents of thoughts.

There seems to me to be no such tension. There are uncontroversial examples that support the maxim on composition and natures. Consider sentences and (meaningful, genuine) words. Sentences are composed of words. But what it is to be a word can be explained philosophically only in terms of the capacity of words to be constituents of complete sentences – sentences in general, not any particular sentence. Another example is provided by federal countries, such as the United States or Germany, and their constituent States or Länder. The political country the United States (as opposed to the surface of the earth it occupies) is composed of its constituent States. But there is no explaining what it is for something to be a State without mentioning its role as a constituent of the federal country.

In this respect, sentences and their parts, and federal nations and their parts, are unlike trees and their constituent molecules, or universities and the persons who are members of them. We can say in general that one kind J is *constitutionally autonomous* with respect to another kind K if what it is to be of kind J can be explained philosophically without making reference to the capacity of Js to be constituents of Ks. Words are not constitutionally autonomous with respect to sentences. States are not constitutionally autonomous with respect to federal nations. But objects of a given sort are constitutionally autonomous with respect to the sets of which they are members. Similarly, objects of a given sort are constitutionally autonomous with respect to the ordered n-tuples, of which they are members; molecules are constitutionally autonomous

with respect to trees; and persons are constitutionally autonomous with respect to universities.

Though there are interesting connections between them, the notion of one kind being constitutionally autonomous with respect to another is distinct from Husserl's notion of a independent part - or more generally as he would say, an independent moment (Husserl 2001, Volume II, Investigation III, 'On the Theory of Whole and Parts', Ch. 1). Husserl's notion applies to particulars, not to kinds. Husserl's notion is also explained in terms of the possibility of independent existence. An independent part or moment of an entity can exist without that entity existing. The notion of constitutional autonomy has rather to do with the explanation of the nature of the kind in question, rather than possibilities of independent existence.

There is much in this area for metaphysics to investigate further. But for present purposes, it seems to me that the mere existence of examples like those of words and sentences, States and federal nations, are sufficient to show that there is no incompatibility in holding simultaneously that Thoughts and complex concepts have concepts as their constituents, and that concepts are individuated by their possession conditions, in particular their role in certain patterns of judgement of contents containing those concepts. Concepts and the Thoughts containing them are to be grouped with words and sentences, States and federal nations, rather than with molecules and trees. The rationale for thinking of concepts and thoughts in this way is precisely the rationale for individuating concepts in terms of their possession conditions given above.

Maxim on Logic and the Theory of Understanding

What is basic in the formalization of logic is not necessarily basic in the theory of understanding.

Of the many formalizations of classical first-order logic, natural deduction systems are the ones that use a relation whose form most closely corresponds to that of a transition between premises and a conclusion that we actually make in thought. The formalizations that use multiple formulae in succedents, such as some of the famous formalizations of Gentzen, do not correspond in any straightforward way to transitions we make in thought. Purely axiomatic formulations also have no such correspondence, for we do not employ logical axioms, as opposed to rules of inference, in ordinary reasoning.

Nonetheless, there are many rules that are primitive (underived) rules in a natural deduction system, but for which primitive, noninferential acceptance of instances of the rule is not constitutive of mastery of the logical notion it treats. You have to work out, from your prior understanding of negation, that instances of the rule of double-negation elimination ($\sim\sim A / A$) are valid. The same holds for the rule of negation-introduction in the form of the rule: if we have a deduction of $A\&\sim A$ from B, then $\sim B$.

Negation is not the only case. Similar remarks apply to such rules as existential elimination, instances of which are not found noninferentially compelling by anyone who understands 'there is…'. In short, the possession condition I gave for conjunction is a very special case. It is special in that there is coincidence of two things: a coincidence of what is required for grasping conjunction, and the principles instances of which must be found primitively compelling. There is no such coincidence in other cases.

Where there is no such coincidence, what more is involved in understanding? In one of the few papers of mine in this area that Davis does not cite, 'Implicit Conceptions, Understanding and Rationality', I argued that for some concepts, including some logical concepts, understanding consists in possession of an implicit conception (Peacocke, 1998). An implicit conception is a state of tacit knowledge, the content of which, in the case of linguistic understanding of an expression, states the fundamental contribution made by that expression to the determination of the semantic value of sentences in which it occurs. That a thinker has such an implicit conception is manifested in the ways he evaluates, for truth or falsity, complex sentences containing the expression in question. Someone whose understanding consists in the possession of such an implicit conception may be able to work out that even primitive rules in a natural deduction system are correct.[2]

Davis says, rightly in my view, that ordinary thinkers do not find such rules as modus tollens or contraposition primitively compelling. I would not write immediate acceptance of them, nor even modus ponens, into the possession condition for the (or for an) indicative conditional. In cases in which, for example, the conditional behaves in the way identified by Stalnaker (1981), I would say that a thinker's understanding of it consists in tacit knowledge of the content stated in Stalnaker's semantical clause. Someone who understands this conditional has tacit knowledge that 'If A, then B', so construed, is true iff B is true in the possible world in which A is true and otherwise differs minimally from the actual world (possibly with a modification for spheres of closeness in the spirit of David Lewis). That the thinker has this tacit knowledge will be reflected in his evaluation of conditionals in various circumstances. Someone who has

this tacit knowledge, and comes by reflection to appreciate explicitly the principles he is using for evaluating conditionals, is in a position to work out that modus ponens holds for this conditional. The acceptance of modus ponens can be a rational matter, and a crucial resource in explaining the possibility of such rational acceptance is the content of the implicit conception involved in understanding, and its consequences for the thinker's evaluations of conditionals.

Davis's own theory

Davis's view is that "the concept of water is identified…with the event type whose occurrence constitutes thinking of water" (MS 6). How is the composition of concepts into complex concepts and Thoughts to be elucidated under this view? What does composition of concepts involve if concepts are event types?

Consider the complex structured Thought that water is heavier than alcohol. How can event types be subject to a relation of composition to generate this complex Thought? Would it be sufficient for an event to be a thinking of this complex Thought that it is a thinking which constitutes a thinking of water, and is also a thinking of the relation *heavier than*, and is too a thinking of alcohol? That would not be sufficient, for it also applies to a thinking of the different Thought that alcohol is heavier than water.

To capture the first Thought, we could add the requirement that the thinkings of water, *heavier than*, and alcohol, must all occur in a thinking which has as its content the Thought that water is heavier than alcohol. But this simply presupposes and uses a notion of the composition of concepts into Thoughts, rather than elucidating it. I conjecture that

conceptual composition cannot be elucidated using only the resources of Davis's approach.

A second problem with Davis's approach is circularity. Not just any thinking of water would be an instance of the event type that Davies wants to identify with the concept of water. A thinking that H_2O is drinkable is a thinking of water. It is just not a thinking of water in the right way to be an exercise of the concept of water. If Davis's approach is to get off the ground at all, the thinkings in question must be thinkings of water as water. This seems to me to make the theory circular, unless some background elucidation is given of what it is to think of water as water. Here Davis's background views seem to make this problem harder: for he holds that "whether anything individuates atomic concepts, in the sense of individuation adopted here, is, in my opinion, an open question" (MS 3).

Neither of these problems arises for the theory of possession conditions. Conceptual combination has an explication both at the cognitive level, in terms of the determination of possession conditions of a complex from the possession conditions of its constituents, and at the semantic level, in terms of the determination of the semantic value of complexes from the semantic values of their constituents. Since possession conditions are also offered for atomic concepts, there is no circularity of the second kind either.

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[1] I thank Wayne Davis for such a detailed consideration of my work, and for earlier discussions at the conference at New York University in 2001. I have not addressed all of his points: to do so would have resulted in a paper far beyond the limits of this journal's already generous policy on replies.

[2] For further comments in the same direction, see Peacocke (forthcoming).