Grounding Concepts: the Problem of Composition

Abstract

In a recent book C.S. Jenkins proposes a theory of arithmetical knowledge which reconciles realism about arithmetic with the a priori character of our knowledge of it. Her basic idea is that arithmetical concepts are grounded in experience and it is through experience that they are connected to reality. I argue that the account fails because Jenkins's central concept, the concept for grounding, is inadequate. Grounding as she defines it does not suffice for realism, and by revising the definition we would abandon the idea that grounding is experiential. Her account falls prey to a problem of which Locke, whom she regards as a source of inspiration, was aware and which he avoided by choosing anti-realism about mathematics.

In a recent book C.S. Jenkins (2008) puts forward a novel theory of arithmetical knowledge, which, she believes, may also be extended to other areas of a priori knowledge. I will argue that the account fails, because it ignores a problem of which Locke, acknowledged by Jenkins as a source of inspiration, was aware. I start with sketching Jenkins's view, then I explain what is wrong with it, and finally I show how Locke avoided the problem.

1. Grounding concepts

Approaches to a priori knowledge fall into three major groups. There is the unabashedly rationalist approach advocated by BonJour (1998) which seeks to revive something like the Cartesian idea of rational insight. At the other extreme we have Quine's radical empiricism which denies the existence of a priori knowledge. In the middle there are views like Boghossian's (1996), Peacocke's (2000) and Bealer's (2000), which accept a priori knowledge but reject rational insight. It is this third position which Jenkins favours. The common ground between the various versions of this moderate view is the conviction that the evidence for propositions known a priori is somehow extracted from the concepts they contain. For instance, if you possess the concepts *7*, *5*, *12*, +, and =, you have everything needed to justify that *7+5=12*.[1] Since the justification does not appeal to direct perceptual experience or to propositions which are themselves justified eventually by direct perceptual experience, the evidence for this proposition is a priori.

[1] Concepts, propositions and Lockean ideas are marked by italics.

Advocates of this concept-based view are also realists about propositions known a priori. They hold that these propositions are not about concepts, are not made true by facts about concepts, are not simply rules for the application of the concepts, etc. Just as the proposition that *Paris is west of Frankfurt* expresses a non-mental fact of geography, *7+5=12* expresses a non-mental fact of arithmetic. It is at this point that Jenkins observes a major problem which advocates of this view either did not fully appreciate or did not provide a convincing solution to. If arithmetical facts are independent of the mind, how can we obtain knowledge about them by examining our concepts? If concepts are mental items but numbers are not, how could an investigation of the former give us access to the latter?[2] Jenkins adopts the analogy of a map to elucidate the issue. By studying a map of Europe we gain evidence for the proposition that *Paris is west of Frankfurt* and thus find out about a non-mental fact. But surely not any map will do. Studying the map of Middle-earth does not provide evidence for and does not yield knowledge of non-mental facts concerning the location of the Shire and Mordor. Similarly, if we want to sustain that concepts provide all the evidence we need for knowledge of certain non-mental facts, like the facts of arithmetic, we have to specify what concepts can do the trick.

To see what we need Jenkins invites us once again to consider the case of maps. We may acquire knowledge of geographical facts by studying a map only if the following two conditions are satisfied. The map has to be accurate (or at least sufficiently accurate in those respects which are relevant for the proposition we claim to know), and its accuracy should not be a matter of coincidence. The second clause serves to ward off Gettier-cases like this one. Imagine that you want to get from one place in Moscow to another. You have a map given to you by a friend you have good reasons to trust and which he believes to be accurate. Suppose the map is indeed accurate, but this came about in a rather unusual way. It is an old map dating back to the communist era, and it was designed to be misleading so as to conceal the location of a factory producing ammunition. However, the fall of communism and two decades of urban development have transformed the city and, strangely enough, the changes have rendered the map accurate. Under these circumstances we would deny that studying the map generates knowledge.

Similarly, when it comes to a priori knowledge we need concepts which are (relevantly) accurate in a non-accidental way. Concepts which meet this requirement are

[2] Jenkins takes concepts to be mental representations. For those who regard concepts as abstract entities the problem emerges in a slightly different form: how could the investigation of abstract entities of one sort (concepts of numbers) yield knowledge of abstract entities of a different sort (numbers)?

called *grounded*. The notion of grounding is supposed to explain how propositions known a priori can describe non-mental facts in the following way. Concepts which are grounded hook up to certain features in the real world.[3] Thus propositions made up of concepts which are grounded make claims about how these features relate to one another, and if they are true, they express non-mental facts concerning these features.

Jenkins believes that concepts must be grounded in *experience*, and it is not difficult to see why. Lacking Cartesian-style rational insight we only have cognitive access to reality through the senses, therefore, if concepts are connected to features in the real world, that connection is mediated by the senses. The various features in the real world are manifested in the unconceptualized sensory input we receive, and concepts are grounded by being linked to the unconceptualized sensory input, which is connected reality. The link to sensory input may be direct or indirect. Certain concepts, which Jenkins sometimes calls basic, are anchored directly in the sensory input, whereas other concepts are composed of concepts which are so anchored. Composition, i.e. introduction of concepts in terms of other concepts in a legitimate way, preserves the connection to reality.

This account is avowedly Lockean (Jenkins 2008: xii, 126, 196–197). Locke believed that some ideas, the simple ideas, are received directly from experience, and the other ones, the complex ideas, are manufactured out of the simple ideas. Thus the idea of gold, which is made up of simple ideas like yellow, heavy and malleable, is connected to experience by way of the simple ideas of which it is composed.

To carry out this Lockean project one has to identify the class of basic concepts and spell out how they are grounded directly in experience. What makes this difficult is that arithmetical concepts, in contrast with clearly empirical ones, are not tied to some characteristic range of experience. Jenkins is very much aware of this problem but does not provide anything like a detailed solution. This should not be regarded as an omission which necessarily undercuts the viability of her approach, because the solution cannot be worked out without presupposing some particular view on the ontology of arithmetic and Jenkins wants to remain neutral on the issue of what features of reality arithmetical concepts correspond to. I allow that this problem does not cause insurmountable difficulties. But there is also a second problem, the problem of composition as I will call it, which consists in showing how grounding is transmitted from basic concepts to ones which are not directly grounded. Jenkins

[3] The features may be objects, properties or structures. Jenkins favors a structuralist account about the ontology of arithmetic (2008: 158, 162, 216), but does not regard this preference as part of her theory of grounding. The theory can be adopted by proponents of other views as well as long as those views are realist.

does not notice this problem and takes it for granted that concepts composed of grounded concepts are also grounded. I will argue, however, that this problem poses a serious challenge.

2. The problem of composition

Grounding is non-accidental accuracy, but the notion of accuracy has not been explained so far. Accuracy is introduced through a chain of definitions, which I reproduce without the explanatory remarks.

(1) I shall say that a concept *refers* iff it is a representation of some real feature of the world.

(2) *Correct* composition of concepts means composition that, nonaccidentally, does not smuggle in extra content.

(3) *Fitting* concepts are concepts which either refer themselves or else are correct compounds of referring concepts.

(4) Given some purported a priori knowable proposition p, we can say that a concept C is *relevantly accurate* (or, sometimes, just *accurate*) iff C is fitting and neither C nor any concept from which C is composed misrepresents its referent in any respect relevant to our purported a priori way of knowing that p. (Jenkins 2008: 126–128)

To see how this works, let us assume that the basic concepts of arithmetic are those of elementary arithmetic and that the concept *prime* is not basic and should not to be reckoned among the referring concepts. However, its definition as number which is only divisible by 1 and itself makes it a correct composition. So it is fitting according to the second clause of (3). It does not misrepresent its referent in any way that would matter to a priori knowledge of the theorems about prime numbers, so it is also accurate.

The problem is that this chain of definitions does not preserve the sort of link to reality which is needed in order to construe a priori knowledge in a realist fashion. Referring concepts do have the right sort of link to reality because they stand for real features. As long as we use only referring concepts, our propositions concern the real world. But when we start composing new concepts this link may well be lost. We may compose a definition of *pelephant* (pink elephant) and *belephant* (blue elephant) using only referring concepts. These concepts would then also be fitting. They do not misrepresent pelephants and belephants in any way that would matter for knowledge of the proposition that *belephants are darker than pelephants*. So these concepts are relevantly accurate with respect to that proposition. If the

requirement of non-accidentality is also met, these concepts are also grounded. Consequently, grounding defined in this way does not provide the required link to reality, for we certainly do not want to allow that propositions such as *belephants are darker than pelephants* express non-mental facts. Real life examples are provided by theoretical concepts of superseded scientific theories, e.g. the theory of luminiferous aether. The concepts in terms of which *aether* was introduced are still used in physical theory, so we have every reason to believe them to be grounded. The concept was introduced in the same way in which theoretical concepts are usually introduced, in order to explain certain facts. We should not doubt that the way theoretical concepts are usually introduced is legitimate, so *aether* is a correct composition; therefore, it is fitting as well. It is also relevantly accurate with respect to the proposition that *aether transmits light waves*. Since there was nothing accidental about the introduction of *aether*, the concept is grounded. Nevertheless, we would definitely deny a realistic understanding of propositions concerning aether.

There is a point where Jenkins seems to realize this difficulty and attempt to dissolve it.

It may appear to be a mistake to assume that examining mere compounds of non-accidentally referring concepts will tell us anything about the world. They do not correspond to features of the world, so what could they be telling us about? Well, first, note that there is an important difference between a concept whose ultimate constituents non-accidentally refer and one whose do not. Remember that the aim is to explain how concepts can be treated as maps of the world rather than works of art. If the ultimate constituents of a concept non-accidentally refer, then that concept cannot be a work of art all the way down. It can, at most, be something we have created from previously existing map-like pieces. And if it is created from map-like pieces in the right way, then information about the world will be recoverable from it. For instance, when I examine my concept of *triangular circle*, I can learn something about those features of the world which correspond to its referring ultimate constituents (as it might be, the worldly properties of triangularity and circularity). So even if the compound concept does not itself refer to any genuine property, I can learn something about genuine properties by examining it. (Jenkins 2008: 126–128)

This response is not satisfying for two reasons. First, non-referring compounds are not necessary to learn about the items which their ultimate constituents refer to. What could we discover through scrutinizing *triangular circle* that we cannot discover by scrutinizing

triangular and *circle*? Similarly, we do not need concepts like *pelephant* and *belephant* to learn about pink and blue. It might indeed happen that we somehow fail to detect certain features of the ultimate constituents and we only notice them when we examine the compound, e.g. when one only comes to reflect on the relative darkness of pink and blue by thinking about *pelephant* and *belephant*, but such cases do not provide much of a reason to study non-referring compounds. Moreover, this kind of usefulness of non-referring compounds does not require that non-referring compounds be grounded. Suppose I entertain a non-referring compound which is ungrounded because its accuracy is due to some Gettier-style coincidence, and I grasp certain features of its constituents which I failed to grasp earlier. If the constituents are grounded, it does not matter that the compound which happened to facilitate the insight is not grounded.

Second, the worry Jenkins seeks to dispel is not the one which has been raised, because that worry concerns realism. The difficulty is that the definition of grounding does not discriminate between claims concerning pelephants and aether on the one hand and arithmetical claims on the other hand. The concepts *pelephant* and *aether* are grounded, yet we are not willing to construe propositions involving them realistically. If we want to be realists about arithmetic we must insist that status of arithmetical propositions is significantly different from that of propositions involving *pelephant* and *aether*. Grounding as defined by Jenkins does secure some connection between concepts and reality, but not the right connection, because this connection is too weak to support realism.

Let us see more closely what is missing. Jenkins understands by mathematical realism commitment to the mind-independence of mathematics rather than commitment to the existence of "distinctively mathematical objects" (Jenkins 2008: 13–14). This sort of realism is compatible with an ontology which accepts only ordinary objects like electrons and people but does not accept mathematical objects conceived as distinct from ordinary objects. It does not demand a special field of entities in the way in which biology demands living things. It insists merely that mathematics has nothing to do with the mental in the same sense in which physics has nothing to with the mental. The items which are claimed to be independent may be identified with mathematical truths, facts or state of affairs, but Jenkins is not interested in the respective merits of these formulations. She is only interested in the characterization of the independence, and the formulation she recommends is this: „p's being the case is independent of our mental lives iff it is no part of *what it is* for p to be the case that our mental lives be a certain way" (Jenkins 2008: 17). Whereas this characterization is sufficient to mark off the sort of realism she favours from anti-realist alternatives, it does not fully capture what we

mean by realism. If we understand *belephants are darker than pelephants* as we should, as a universally quantified conditional, it is no part of this to be the case that our mental lives be a certain way. Belephants and pelephants are independent of the mental in the required sense, yet we are not realist about them. An empty universe would make the universally quantified propositions of physics vacuously true and its existentially quantified propositions false but would not licence realism about physics. Mind-independence is not enough: realism assumes ontological arrangements in virtue of which propositions of a certain kind are true or false other than the mere non-existence of the items the propositions purport to describe. We may call this the existential requirement of realism. It demands that there must be *some* entities whose nature and relations determines what propositions in a given field are true and false. One may be a realist about a field without endorsing one particular ontology. In fact, realists may disagree as to what the ontology of the given field is. So a mathematical realist like Jenkins does not have to commit herself to the ontology of "distinctively mathematical objects". (A realist about economics would certainly deny that the there are economic objects like GDP and average income, which are distinct from people producing things, buying, selling, etc.) However, she must require that there are items which make it the case that 2+2=4 but do not make it the case that 2+2=5, even though she may allow that those items are not numbers as ordinarily conceived.

What is missing from Jenkins's approach is the guarantee that the existential requirement of realism is fulfilled. As long as arithmetic applies only basic concepts, i.e. concepts which refer, the existential requirement is satisfied and realism is warranted. But once we venture outside this part of arithmetic and start composing new arithmetical concepts, it might happen that at some point we cease to meet the existential requirement and lose our licence to realism. My examples work in the following way. In the case of *pelephant* and *aether* we understand well enough what sort of ontological arrangements are necessary to warrant realism about their constituents (the existence of elephants and the property pink, the existence of space, light, rigidity, diffraction, etc.) and we also understand what ontological arrangements are necessary to warrant realism about the compound (there must be elephants which are pink and there must be a substance which is sufficiently similar to how aether was described in 19th century physics). The definition of grounding as it stands allows for the possibility that only the constituents of a grounded concept satisfy the existential requirement of realism but the compound concept does not.

Is there a way to answer this objection while preserving Jenkins's original definition? One thing we may try is to impose tighter constraints on correct composition which would

render *pelephant* and *aether* incorrect compositions and thereby inaccurate. But this route seems hopeless, since these concepts are composed in ways which we ordinarily regard as legitimate, and a measure that would make them inaccurate would make many (most?) of our composite concepts inaccurate. A second possibility would be to suggest that the concepts used in the examples are accurate but not grounded, because their accuracy is merely accidental. However, it is not at all easy to see how the accuracy of *pelephant* and the like in the sense of (1)-(4) could be the result of sheer coincidence, and even if one can construct a scenario in which the accuracy of such concepts is due to some Gettier-style coincidence, we may take another scenario in which no such coincidence happens. To disqualify such concepts one would need a general argument to show that none of them meets the requirement of non-accidentality. It is hard imagine how such an argument would proceed without also rendering the accuracy of compound arithmetical concepts accidental. The third option would be to give an argument to the effect that arithmetical concepts have some special feature which sets them apart from clearly empirical concepts such that in virtue of that feature they never fail to meet the existential requirement as a result of composition; i.e. there is something about them which guarantees that they always retain the connection to reality no matter how compounded they get. An argument of this kind has to respect two conditions. First, it should be independently plausible that the feature which makes arithmetical concepts special is relevant to the connection to reality. Second, it should not be biased in favour of arithmetical concepts and set lower requirements for them than for other concepts; e.g. when it comes to arithmetic, it should not reinterpret existence as mere possibility. Even though it cannot be ruled out that an argument of this kind might be proposed, at the moment it seems unclear how it would go.

Can we change the definition in a way that blocks the objection? We might consider getting rid of the problem of composition by getting rid of composition. We could then scrap (2) and (3) of the definition, and define accuracy by (1) and a slightly modified version of (4) which does not mention composition.[4] In this way all grounded concepts would be referential, and since reference is sufficient to ensure the satisfaction of the existential requirement of realism, we would not have to worry about the requirement. But the idea of composition was introduced for good reasons, and abandoning it would make the theory of grounding doubly implausible. First, it would raise a difficulty similar to the usual objection against identifying mathematical objects with something physical: the world is not sufficiently rich to match the

[4] Like this: given some purported a priori knowable proposition p, we can say that a concept C is *relevantly accurate* iff C refers and it does not misrepresent its referent in any respect relevant to our purported a priori way of knowing that p.

richness of mathematics. Mathematics describes several structures which do not have models in the physical world. There is set theory with the transfinite numbers, but even in higher arithmetic we are sure to find structures which are too complex to be instantiated in the physical world. The idea of composition enables one to sidestep this difficulty and maintain realism even if the world is not rich enough to provide referents for all mathematical concepts. Second, giving up the notion of composition also poses a threat for the idea that arithmetical concepts hook up to reality through experience because it seems highly implausible that all arithmetical concepts are grounded directly in experience. It is hard to conceive how we might obtain even the fairly simple concept *prime* straight from experience, not to mention the concepts in advanced arithmetic. In the Preface of her book Jenkins describes her theory as an attempt to reconcile three pre-theoretic intuitions: that arithmetic is a priori; that it is to be interpreted realistically; and that empiricism is correct, i.e. all knowledge of the independent world comes through the senses. (Jenkins 2008: X) Composition is crucially needed to preserve two of these intuitions, realism and empiricism, so it cannot be simply abandoned.

Finally, there is a possibly less radical measure which consists in redefining correct composition as an externalist notion in the epistemological sense. As Jenkins emphasizes, grounding is an externalist notion; whether a concept is grounded depends on external facts, which are not accessible to the thinker through reflection. (Remember the case of a map: not even the most detailed examination of a map will reveal whether it is accurate.) In the original definition the externalist character of the notion is secured by including the notion of reference in its definition: a concept is grounded if it itself referential or has at least referential part, and being referential is a property of concepts which is not accessible to reflection. We might decide to transform correct composition into an externalist notion so that it should come to stand for a feature the possession of which cannot be determined solely by inspecting the composite concept and its parts. We could then, perhaps, argue that *belephants* and like may have the look of being correctly composed but there are also external constraints on correct composition and it is these external constraints which they fail to satisfy. I cannot rule out in advance that this solution might succeed, but I would like to point out two difficulties.

First, it is not enough to say that there are external constraints on correct composition, one should also indicate how they should be conceived. If these constrains are not elucidated, the notion of correct composition would merely stand for some unspecified feature which makes non-referential concepts consisting of referential parts grounded. But this would leave the notion completely obscure, since one cannot appeal to the notion of grounding in the

clarification of correct composition because grounding is supposed to defined in terms of correct composition, not the other way around. What makes the elucidation a daunting task is that given Jenkins's explanation one cannot see how external constraints might enter. A concept is said to be correctly composed if it does not introduce extra content, for instance *small red circle* is not a correct composition of *red* and *circle* (Jenkins 2008: 127). However, in the examples I gave one cannot see what the extra content is that might render their composition incorrect and one can see even less what the extra content would have to do with external constraints.

Second, even if the attempted externalist revision of the notion of correct composition succeeds, the theory of grounding might easily lose an advantage it has over Quine's account. Like Quine, Jenkins is attracted to the idea that arithmetical concepts earn their keep by being indispensable to our overall account of experience. But she, like many other philosophers of mathematics, is worried that by linking the justification of arithmetic directly to indispensability Quine renders much of arithmetic unjustified. After all, many parts of arithmetic have no application in the empirical sciences; the theory of primes can again serve an example (if disregard its recent use in cryptography). In his more liberal mood Quine allows that even these parts have meaning in virtue of sharing the vocabulary and grammar of the parts which are indispensable, so sentences belonging there can also be true and false, yet, being isolated from experience, we have knowledge of them (Quine 1990: 94–95).[5] Jenkins, on the other hand, may say that if the concepts specific to these parts of mathematics are grounded, and the theorems couched in terms of these concepts can be proven, we have all the evidence we need, so the theorems pass muster and count as knowledge (Jenkins 2008: 116, 152–153). She then goes on to argue that we have evidence for the claim that the basic concepts of arithmetic are grounded, and the evidence is that that these basic concepts are indispensable to empirical science.[6] Since according to the definition of grounding (non-accidentally) correct compositions of grounded concepts are also grounded, the evidence for the existence of grounding for basic concepts is also evidence for the existence of grounding for the concepts which are correctly composed of basic ones. If, however, the notion of correct composition came to be understood in an externalist way, the evidence for the

[5] Quine is worried about higher set theory rather than arithmetic. For an argument that the theory of grounding cannot be extend to set theory see Rowland (2010).

[6] Jenkins's account is slightly more complex, since in addition to grounding she also uses the notion of justification. A concept is justified if it is rationally respectable to rely upon as an accurate representation of the independent world (Jenkins 2008: 145). If a concept is justified but its accuracy is due merely to some lucky coincidence (as is the case with the accidentally correct map of Moscow in the first section) then it is not grounded. What indispensability provides evidence for is justification rather than grounding.

grounding of basic concepts would not automatically extend to non-basic ones, because we could not tell whether a concept is a correct composition by simply examining it and the concepts of which it is composed. Indispensability would then provide evidence only for the grounding of basic concepts, and when it comes to non-basic concepts which are not indispensable we would need evidence that they are correct compositions. If we cannot find such evidence, the theory of grounding faces a difficulty very much like the one Quine's account faces. In Quine's view the dispensable part of arithmetic is not knowledge, on the basis of the theory of grounding it might be knowledge but we do not have evidence that it is. So the externalist notion of correct composition should be elucidated in way which makes it possible to avoid this unwelcome consequence.

This discussion of the problem of composition does not show that the theory of grounding is beyond repair but it does show that the remedy might not be easy to find.

3. Locke's way out

Since Jenkins names Locke as a precursor of her own approach, it might be worth seeing how Locke avoided this difficulty. Locke distinguished between knowledge and opinion. He described the knowledge of universal propositions in a way that is very similar to Jenkins's account of a priori knowledge. Such knowledge can be attained only through the contemplation of abstract ideas, by seeing whether they agree or disagree (Locke 1975: IV.6.16.).[7] But then he needs to face the following objection. We do see that the idea of *harpy* and the idea of *centaur* disagree, just as we see that the idea of *square* and the idea of *circle* disagree. So how come we are not willing to consider the knowledge that *a harpy is not a centaur* just as valuable as the knowledge that *a square is not a circle*? Notice the similarity to our own case: how come we are not willing to allow the same status to propositions about pelephants and aether as to theorems concerning primes?

And here is Locke's answer: the propositions about centaurs do not provide "real knowledge" as opposed to the propositions about circles, because the idea of *circle* is real, but the idea of *centaur* is not. This might seem worrying because it may well be the case that no genuine circle exists. But Locke is not finished yet. He defines the reality of ideas in terms of conformity with the archetype, where the archetype is what the idea is supposed to correspond

[7] I refer to Locke's work by the number of the book, the chapter and the paragraph. In what follows I will refrain from giving references as there should be too many, but the relevant passages are IV.iii.1–13. The examples I give come from Locke. The reality of ideas is also discussed in II.xxx.1–5., where Locke uses a slightly different definition of real ideas, but I adhere to the way of speaking in book IV., because it is there that our problem gets discussed.

to. And now we reach the crux of the matter. The idea of *centaur* is an idea of substance whereas the idea of *circle* is an idea of mode. The different kinds of ideas have different archetypes. The archetypes of ideas of substances are things in the external world, i.e. patterns of coinstantiated properties. The idea of *centaur* does not correspond to any existing pattern, so it is not real, which renders propositions about centaurs unreal and devoid of value. The archetypes of ideas of modes are not external things, but they themselves, the very ideas. The idea of *circle* certainly corresponds to itself, it is, therefore, real, so mathematical knowledge is real knowledge. Locke also makes it very clear that mathematical knowledge does not require the existence of mathematical objects.[8]

This position would be unacceptable to Jenkins, because we would not recognize it as a realist interpretation of mathematics. Locke believes that mathematics is not concerned with what exists, it is concerned with our ideas, and the reason why we do not blame mathematicians for failing to describe existing things is that we do not even expect them to do that.[9] Not being a realist about mathematics, he does not have to maintain that the connection with the real world established at the level of simple ideas persists through composition. Since complex ideas sometimes do not correspond to anything in the real world, he does not have to worry about harpies and centaurs. Jenkins, however, has to insist that composition preserves the connection to reality, because this is the way in which she hopes to secure a realist interpretation for arithmetical constructions which do not have an experiential basis of their own. Alas, her account fails because the connection to reality may be lost as a result of composition.

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[8] Ideas of modes may be unreal only if they contain „incompatible ideas", such as the idea of a *square circle*. (Locke 1975: II.xxx.4.)

[9] Jenkins does not accept this and takes issue with Cicovacki (1990) who reads Locke in the same way as I do (Jenkins 2008: 197–198).

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