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A Priori or A Posteriori?

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1 The role of the distinction in metametaphysics[1]

The distinction between the a priori and the a posteriori is important both in epistemology and in metaphysics. What makes the distinction important in *meta*metaphysics is the fact that many questions in metametaphysics are closely related to the source of metaphysical knowledge and our epistemic access to that source. For instance, since many topics in metaphysics concern the realm of *abstract* objects such as sets and numbers, the question about our epistemic access to entities of this type is relevant. This issue is closely tied to *Benacerraf's Problem* (Benacerraf 1973), which concerns the causal isolation of the realm of abstract entities, especially mathematical entities (for discussion, see Horsten 2018). Another area of knowledge that seems causally isolated from us is metaphysical modality – obviously a very important area of inquiry in metaphysics.[2] If we do have knowledge about metaphysical possibility and necessity, then what is the source of that knowledge? One important reason why this question is pressing in metametaphysics is that many contemporary metaphysicians strive for a naturalistic understanding of metaphysics, but the realm of metaphysical modality may be considered especially problematic in this regard, because there does not seem to be a simple way to acquire knowledge about it by a posteriori means.[3]

However, it should be noted right at the outset that there is no particular reason to think that a priori reasoning or the question about the relationship of the a priori and the a posteriori is a special problem for metaphysics. As Karen Bennett (2016) has convincingly argued, all areas of philosophy will face similar issues, since a priori reasoning is employed all over philosophy. Nevertheless, a priori knowledge is often

thought to be a challenge for, if not incompatible with, naturalism, so the fact that metaphysics sometimes seems to deal with knowledge accessible only by a priori means poses a problem for naturalistic metaphysicians (see Jenkins 2013). We will discuss all these issues in more detail in what follows but let us first consider some preliminaries.

There are at least four different areas to which the a priori-a posteriori distinction can be applied. These are knowledge, justification, reasoning, and methodology. There is obviously a very large literature on each of these areas, so we will not be discussing them all in detail.[4] One way to understand the difference between knowledge and justification is in terms of truth – one may be justified in believing a certain proposition p without it being true, but knowledge that p arguably also requires that p is true. We need not dwell on the details of the analysis of knowledge, but it is arguably a priori knowledge in particular that is of interest in metaphysics, whereas a priori justification could be considered to fall under the remit of epistemology. This is, very roughly, what Albert Casullo's analysis of the distinction might suggest: we may distinguish between a non-reductive and a reductive approach to a priori knowledge, where the first is concerned with the analysis of the concept of a priori knowledge, while the latter is concerned with a priori justification (cf. Casullo 2003: 10). Reasoning and methodology are of course closely tied to justification, but methodology is a somewhat broader notion. For instance, if we say that metaphysics generally involves a priori methods, this could mean that metaphysicians justify their claims about the subject matter of metaphysics in terms of conceivability arguments, intuitions, logic, or other similar tools that are typically (but not without exception) considered non-empirical.

2 How can we distinguish between a priori and a posteriori knowledge?

It may seem relatively easy to give a simple definition of a priori and a posteriori knowledge and distinguish them on that basis. A priori knowledge is simply knowledge acquired by non-experiential or non-empirical means, whereas a posteriori knowledge is acquired via experience or the senses, empirically. This does not yet

specify whether it's necessary that either type of knowledge was acquired by a priori or a posteriori means though. If a computer provides us with information about a complicated mathematical issue, then we acquired that information by a posteriori means, assuming that the computer is a reliable source of this type of mathematical information. But a skilled mathematician might be able to acquire the same information by a priori means. Yet, it seems that there may be some forms of metaphysical knowledge that we could not have arrived at by empirical means at all. If we have knowledge about any metaphysical necessities or metaphysical possibilities that are nomologically impossible, then this type of knowledge might be a case in point.[5] For our purposes, it is this type of knowledge – knowledge that seems necessarily a priori – that makes for the most interesting case study.

So, we have started with the assumption that a priori and a posteriori knowledge can be distinguished via the notion of *experience*. But there are many well-known problems concerning this. For instance, Laurence BonJour (1998: 7–11) mentions two of the most apparent problems concerning the a priori and experience: the problem of how we define 'experience' itself and how the a priori is supposed to be 'independent' of it. In the first case, the problem is to determine the correct scope of experience. Do mental processes count as experience? How about mathematical or philosophical reasoning that relies on certain learned patterns? Should only perceptual information count as experiential? How does memory fit in with all of this? The second traditional problem involves issues concerning concept acquisition as a precondition for a priori knowledge. We need concepts to formulate our beliefs, and it seems that those concepts must be learned experientially before we can even formulate any beliefs.

Problems with the distinction remain, even assuming that we can overcome these issues and define 'experience' in such a way that a clear-cut distinction can be made and agree that concept acquisition does not contaminate a priori knowledge with a posteriori elements. One central issue is that it is exceedingly difficult to find *pure* examples of a priori or a posteriori knowledge. Consider an example that one might take to be particularly easy:

> [T]he scattering of birds causes you, via the belief that birds have scattered, to infer, with the help of a number of other beliefs, that there is a cat in the vicinity.
>
> (McGinn 1975–76: 199)

This example of perceptual information concerning birds, which is used to infer a further proposition, does seem to be relatively easy to classify as a posteriori knowledge. However, there is inference involved, presumably based on inductive information concerning previous cases of bird scattering. But inference is a form of reasoning, regardless of what the initial premises are (i.e. whether the premises are themselves a priori or a posteriori). Based on an appropriate set of premises, we can deduce that the vicinity of a cat is one likely explanation for the scattering of the birds. What is the nature of this form of reasoning? Can it be accurately described as 'a posteriori reasoning', or is that even a sensible notion? Would we not be inclined to say that all forms of *reasoning* are a priori? One could of course suggest that only pure perceptual information, whatever that may be, is truly a posteriori and anything that we might deduce from that perceptual information is in fact a priori. This way we would end up with the curious result that most of our knowledge must be a priori, since we have arrived at it via a priori means, using our capacity to reason deductively. However, this is not a common understanding of a priori knowledge. It is more common to think that whenever the acquisition of a piece of knowledge involves a posteriori elements, that piece of knowledge should be classified as a posteriori. After all, if there was an a posteriori element that was required at some point, then the piece of knowledge in question is not fully independent of experience. So, it would only be pure a priori knowledge in the sense of complete independence of experience that counts as a priori knowledge.

Setting aside the issue of concept acquisition, we may then end up, instead, with the result that only logic counts as a priori, in virtue of it being a purely deductive science (McGinn 1975–76: 199–200). Now, if deduction is a mark of the a priori, and we need deduction to be able to form a proposition concerning a certain state of affairs, such as there being a cat in the vicinity at a location where bird scattering has been observed, then it would appear that any kind of inferred propositional knowledge

like this will include a priori elements, even if the present proposal would classify it as a posteriori. Much, if not all, of the underlying information may have originated in our senses, but at some point, reasoning will enter the picture.

So, we have a bit of a dilemma. We use a priori methods all the time and we regard them as reliable. But since there is almost always some preliminary information involved, except perhaps in formal logic, it appears that there isn't much pure a priori knowledge. The issue is further complicated by the fact that interesting types of a priori knowledge, such as that concerning metaphysical modality, are not usually thought to be available to us via logic. Instead, many think that acquiring this type of knowledge requires resorting to methods of inquiry such as conceivability or intuitions. If these methods of inquiry are considered a posteriori, then we end up with the somewhat surprising result that even knowledge of metaphysical modality is a posteriori.

There is a further issue. Since it seems that often we can come to know the same thing both by a priori and a posteriori means, we would need to refine the distinction if we don't want the same piece of knowledge to be both a priori and a posteriori. After observing this issue, Timothy Williamson concludes that:

> Perhaps the best fit to current practice with the term is to stipulate that a truth is a posteriori if and only if it can be known a posteriori but cannot be known a priori.

(Williamson 2013: 293)

Now, we have been applying the distinction to *ways* of knowing and justification rather than truths, and Williamson's suggestion here would result in a similar picture, because he effectively suggests that it is the way that we *can* come to know a truth that determines its status, so that's what we should focus on. However, as he goes on to note, even this approach faces a problem if we accept Kripke's (1980) famous case in favour of contingent a priori truths and necessary a posteriori truths. If there are contingent a priori truths, such as Kripke's example concerning the standard metre, then it seems that they must also be knowable a posteriori – this is in fact how most of us come to learn about the length of the standard metre, even if it was a priori for

those who initially proposed the definition. If Kripke is right, the link between apriority and necessity is severed and we lose a seemingly easy way to identify a priori truths with necessary truths and contingent truths with a posteriori truths.

What is the upshot regarding the a priori-a posteriori distinction? Given that it is very difficult to properly distinguish a priori and a posteriori knowledge, one might think that the distinction is not very significant at all. As we have seen, even if we do find a way to draw the distinction without too much vagueness, we may end up with the result that there is very little knowledge of one or the other type. Williamson (2013) has suggested something similar, arguing that even though the distinction can be drawn, the differences between a priori and a posteriori knowledge are superficial. The reason for this is that in both cases, experience does play a role and according to Williamson this role is more than 'purely enabling' – like it would perhaps be in the case of concept acquisition – but also less than 'strictly evidential', like it might be in the case of pure perceptual information.

The problem with distinguishing the enabling and evidential roles of experience is related to our understanding of 'experience' itself. We have noted some of the problems surrounding this already, many of which arise from having to account for 'inner' as well as 'outer' experience: not all experience is perceptual, we often appeal to experience that is purely internal to us as well, such as when we perform a calculation. But it's not clear whether the process of calculation is playing an evidential role here, since we might think that the inner experience of calculating just enables us to access certain mathematical truths. Yet, a similar story can be told about outer experiences as well: there is a certain experience that we associate with perception, but the knowledge that we gain via this process concerns external matters, so once again it could be argued that experience is only mediating our access to certain external facts, hence playing an enabling rather than an evidential role. So, it won't do to draw the a priori-a posteriori distinction in terms of inner and outer experiences, because either type of experience can be interpreted as evidential or enabling.

This rather negative result does not mean that we couldn't find a reasonable way to draw the a priori-a posteriori distinction. The problem, rather, is that all

reasonable ways to draw the distinction will be somewhat stipulative and even supposedly clear cases of one or the other type of knowledge may end up being classified differently. The consensus in contemporary epistemology, insofar as there is one, seems to be that the coherence and significance of the distinction are under serious threat.[6] But perhaps this does not mean that the distinction is useless. In the next section we will outline an approach that embraces the vagueness of the distinction and also explains why it may not be fruitful to attempt to classify a certain truth outright as either a priori or a posteriori.

3 Bootstrapping and cyclical processing

Motivated by the difficulty of demarcating a priori and a posteriori knowledge, some philosophers have abandoned the project of trying to find a clear definition of either type of knowledge. Instead, it is suggested that there is a very subtle interplay between different types of inquiry and both are needed in order to acquire any knowledge at all (Chakravartty 2013; Lowe 2011, 2014; Morganti and Tahko 2017; Tahko 2008, 2011).

Another source of motivation for a revised view is more closely related to the role that a priori knowledge is sometimes thought to play in metaphysics. For instance, a priori methods in metaphysics are often associated with intuitions or conceivability, but many metaphysicians are quite sceptical of these methods. E.J. Lowe is one such philosopher. He argues that a view taking intuitions as evidential in metaphysics is 'fundamentally misguided and leads inexorably to an anti-realist conception of metaphysical claims' (Lowe 2014: 256). However, Lowe himself is not against a priori knowledge or a priori methods in metaphysics; he just thinks that they have little to do with intuitions or conceivability. Instead, Lowe argues that it is knowledge of essence that has a central role in metaphysics and that the process of acquiring this knowledge should not be considered completely independent of experience, but rather as proceeding in a 'cyclical manner, by alternating stages of a priori and a posteriori inquiry' (2014: 257).

Those sympathetic to the idea that a priori and a posteriori inquiry go hand in hand in metaphysics often also consider the same to be true of scientific inquiry. We

will return to science and naturalistic metaphysics in section 5, but it may be helpful to consider an example from scientific inquiry here to demonstrate the degree to which a priori and a posteriori methodologies can be intertwined. I borrow this example from Tahko (2011: 157), where the 'cyclical' relationship between the a priori and the a posteriori is referred to as 'bootstrapping relationship'.

Consider the phenomenon of gravitational redshift, which refers to the change in the wavelength of light and other electromagnetic radiation when it travels from a stronger gravitational field to a weaker one. This effect of gravity on light was predicted already by Newton, but Newton's results relating to the phenomenon were partly inaccurate, as he relied on the corpuscular theory of light. When light is conceived as an electromagnetic wave instead, the phenomenon of gravitational redshift needs to be reconsidered, as it appears that the wavelength of light could only change from one place to another if the flow of time also changes. This mystery was of course solved by Einstein's special theory of relativity, which models how the flow of time can indeed change, relative to a given frame of reference – the famous example of twins ageing at different rates because one of them is travelling close to the speed of light is a case in point. So, it was Einstein's theory of general relativity that correctly predicted the gravitational redshift phenomenon. Einstein's work, however, was not empirical. It was only the Pound-Rebka experiment in 1959 which correctly measured gravitational redshift, and this experiment is often also considered to have verified Einstein's theory.

There is of course a lot more detail in this example and it should be noted that we are here dealing at the level of complete theories about light and electromagnetic radiation rather than a single proposition. However, we could focus just on the simple proposition <Gravity bends light>, which is effectively what is responsible for the phenomenon of gravitational redshift. Now, this phenomenon is not something that we would have been likely to look for if we didn't have some theoretical reasons to do so. These reasons were already apparent in Newton's theory, which predicted that gravity would influence light. But Newton's theory was based on false assumptions about the nature of light. Later, experiments with light showed that it behaves much like an electromagnetic wave, and the original theory concerning gravitational redshift could

not accommodate this. Accordingly, since Einstein's theory predicted different values for the phenomenon, it became an important test case for his theory.

We can now simplify a little and reconstruct the long history of gravitational redshift in terms of the proposition <Gravity bends light>. Newton's theory represents the first a priori step in the bootstrapping relationship. Newton of course had empirical information about gravity that he used to build his theory on, but there are good reasons to think that extending that theory to light was quite independent from experience, since we don't observe the influence of gravity on light without very sensitive equipment. Moreover, Newton's corpuscular theory of light was mistaken, as experiments later confirmed. Thus, we have an a posteriori falsification of Newton's original theory concerning the interplay between gravity and light even though the proposition <Gravity bends light> is true. So, Newton was actually partly correct when he asserted (let us imagine), the proposition. Einstein's work represents a new a priori step from the established a posteriori framework, which had falsified Newton's theory about gravitational redshift. After his theory was empirically verified by the Pound-Rebka experiment (and others), it also became a part of the a posteriori framework. On this basis, it seems wrong to say that the proposition <Gravity bends light> would be either purely a posteriori or purely a priori. Depending on which aspects of this story we emphasize and how strictly we define the a priori and the a posteriori, either result could be derived. The upshot is that it is often more accurate to say that a priori and a posteriori methods are intertwined in a quite intimate relationship, which is better described as cyclical or as bootstrapping.

Let us now move on to some applications of the a priori-a posteriori distinction in (meta)metaphysics.

4 Connection to modal epistemology

We have already noted that one area where one might think that a priori reasoning is needed is knowledge of metaphysical modality and indeed modal epistemology more generally. This is a topic where conceivability, for instance, has been traditionally employed as a source of evidence. But there have been recent developments in the area of modal epistemology as well that point toward a need to re-evaluate the role of

a priori and a posteriori methods. Specifically, while it may once have been common to regard all knowledge of metaphysical modality as a priori, there are now many philosophers sympathetic to versions of *modal empiricism* (e.g. Fischer and Leon 2017), where attempts have been made to account for at least some of this knowledge in terms of a posteriori methods. So, we can divide the accounts of the source of modal knowledge into two rough categories: modal rationalism and modal empiricism.

Modal rationalism encompasses intuition- and conceivability-based approaches of the type defended, for instance, by George Bealer (e.g. 2004) and David Chalmers (e.g. 2002), and also the essence-based account of E.J. Lowe (e.g. 2012). Bealer defends an intuition-based account, whereas Chalmers defends a conceivability-based account as a part of a broader rationalist picture. Lowe's approach is slightly different, since he thinks, following Kit Fine, that metaphysical modality is grounded in essence, so modal epistemology becomes a special case of the epistemology of essence.

We do not need to dwell on the details of the various approaches to modal epistemology.[7] But it will be interesting to briefly discuss one key question regarding the relationship of a priori and a posteriori methods in modal epistemology (we continue to work with the – admittedly problematic – assumption that if a proposition is knowable only with the help of a priori methods, then we should classify that proposition as a priori). This is the question of unification, that is, are any of the various approaches to modal epistemology able to account for all modal knowledge or do we need to resort to various different kinds of methods to account for all modal knowledge? The starting point here should presumably be that, all other things being equal, a unified account, a single explanation for all modal knowledge, should be preferred. Two ways to unify the account would be to argue that all modal knowledge is acquired by a priori means or that it is all acquired by a posteriori means (and perhaps also in terms of the very same method, such as conceivability).

However, the unified approach has been forcefully challenged in recent work, especially by modal empiricists. A partial motivation here may be naturalistic, i.e. to avoid a commitment to a priori methods insofar as possible. Indeed, it seems right that

there is some modal knowledge that can be reached by a posteriori means, such as via perception. Moreover, as Carrie Jenkins (2010) has suggested, modal empiricism can be understood as a view according to which experience ensures the reliability of our modal knowledge. On Jenkins's version of the idea, experience provides an epistemic grounding for our concepts. Interestingly, since concepts are also the basis of our conceptual abilities, conceivability itself would appear to need this experiential basis. This issue is obviously related to the distinction between experience as enabling and as evidential, so we end up with the same problems as above.

Yet, there are also reasons to think that not all modal knowledge can be acquired by a posteriori means, such as modal knowledge concerning abstract objects or nomologically impossible yet metaphysically possible matters. So, either way, proponents of a uniform account of all modal knowledge will face great difficulties, at least insofar as this uniformity is expected in terms of the a priori-a posteriori distinction (there are more fine-grained ways to understand uniformity, as specified in Wirling 2019, but our focus here is on the a priori-a posteriori distinction, for obvious reasons). Perhaps this constitutes another reason to avoid using this distinction as the basis for distinguishing different positions such as modal rationalism and modal empiricism (cf. Tahko 2017).

5 Connection to science and naturalistic metaphysics

One reason to be interested in the a priori-a posteriori distinction in the context of metametaphysics is the desire to strive for the most naturalistic and scientifically respectable epistemology for metaphysics as possible. Assuming that the a priori-a posteriori distinction can be made in the first place, one might think that it provides us with at least a rough tool to distinguish between naturalistic and non-naturalistic approaches to the epistemology of metaphysics. Unfortunately, this is a naïve attitude. Not only is the distinction itself unlikely to be sharp enough to provide any useful input on this question, but a closer look quickly reveals that even the most 'naturalistic' area of science will need input from methods of inquiry that can be reasonably classified as a priori. We have already seen a rudimentary example of this

in section 3, with reference to Newton and Einstein. Here's Anjan Chakravartty's take on the matter:

> The degree to which and the ways in which the many domains of investigation that come under the heading of 'the sciences' are empirical is highly variable. As a consequence, the distinction here between a priori and a posteriori methodology cannot simply be superimposed unproblematically on metaphysics and the sciences, respectively.
>
> (Chakravartty 2013: 33–34)

Chakravartty brings this issue up precisely in connection to the prospects of naturalized metaphysics, arguing that the distinction between non-naturalistic and naturalistic metaphysics cannot be simply made on the basis of the a priori-a posteriori distinction. This is of course the expected result given what we have already learned about the distinction. But maybe there are more subtle ways to draw the difference between non-naturalistic and naturalistic metaphysics? Chakravartty (2013: 32) speculates that it may be the idea of a priori theorizing 'with no significant empirical tethering' that is responsible for the hostility towards some, apparently non-naturalistic, approaches to metaphysics. Of course, if what we have observed in earlier sections is correct, there simply is no such area of metaphysics, indeed, there seems to be no area of human inquiry whatsoever which would not take advantage of both a priori and a posteriori resources. It is important to recognize that this by no means entails that all areas of metaphysics would be unproblematic, epistemically speaking. It only means that no area of metaphysics should be considered problematic just because it employs a priori methods.[8] Or if it is, then the same problems propagate to other areas of philosophy as well (cf. Bennett 2016), and to the sciences.

This is not the place to pursue arguments to the effect that the sciences, to variable extents, employ a priori methodology. Instead, it may be worthwhile to take an entirely different angle on the issue, namely, why do we think that the methods used in metaphysics and philosophy are a priori at all? This has been recently discussed by Daniel Nolan (2015), who argues that the 'armchair' methods used in philosophy could just as well be classified as a posteriori. Nolan suggests that these

methods generally involve the senses playing a role that is not merely enabling. So, once again we encounter the distinction between enabling and evidential roles. Here, the role of the senses is taken to be something more than a necessary part of the acquisition of concepts. Nolan identifies four possible tasks of this type for the senses. We will discuss each of them briefly.

The first is *Assembling and Evaluating Commonplaces*. This task amounts to the analysis of such stories as the one about (the statue of) Goliath and Lumpl, the piece of clay of which Goliath is made.[9] Nolan suggests that we know only a posteriori that there are statues made of clay and that such statues can be smashed without destroying the clay. But the real interest of the suggestion is that philosophers can make surprising 'discoveries' on the basis of such commonplaces, which are seemingly available to everyone on the basis of a posteriori knowledge. For instance, the realization that Goliath and Lumpl have different persistence conditions has important upshots for metaphysical debates about composition. However, there may still be room to argue that the relevant philosophical work is nevertheless a priori. For one might insist that we need to have some grasp of the *kind* of thing that statues and lumps are before we are in any position to draw the philosophically important conclusions (cf. Lowe 2012).

Nolan's second a posteriori armchair task concerns *New Theoretical Alternatives*. The fairly uncontroversial idea behind this task is that once a set of theoretical alternatives is already known, philosophers can come up with new versions of these theories or combine different theoretical frameworks to the effect that a unified theory can be constructed – all from the armchair but apparently without resorting to a priori inquiry. Nolan mentions David Lewis's neo-Humean framework as an example; indeed, Lewis made a tremendous effort to combine laws, causation, counterfactuals, chance, and dispositions into a unified theoretical framework, the value of which is undeniable regardless of whether Lewis is correct about all the details. This certainly seems like a reasonable and valuable task to be conducted from the armchair and since all the data is, in a sense, already available in previous theories, the task itself would seem to require no further inquiry, a priori or otherwise.

Perhaps it might still be objected that even once all the data is available it is a complicated task to determine all the implications of bringing together different theoretical alternatives. So, one might think that such a task will not be possible without further *interpretation* of the alternatives; thus, if the interpretative work requires metaphysical a priori inquiry, then the task cannot be completed simply in terms of a posteriori armchair inquiry. Be that as it may, since this task is in some sense secondary (given that metaphysical inquiry surely doesn't *start* from it) it is perhaps of less importance whether it is truly a priori or a posteriori.

A related, third task discussed by Nolan is *Integrating Past A Posteriori Investigation*. This important task focuses on determining which discoveries of various disciplines should inform our overall world view as well as the relations between these disciplines. But Nolan readily admits that this task apparently involves much more than just armchair work: we may need to conduct actual scientific experiments to determine what the exact link is, say, between psychology and linguistics, or physics and chemistry. Nolan does point out that at least in certain cases, the information needed to engage in the integration task may be considered 'commonplace' in the sense discussed regarding the first task. One particularly striking example might be quantum mechanics and its apparent violation of determinism: while the specifics of the situation are probably far from commonplace, it is now so widely known that quantum mechanics causes problems for determinism and classical physics more generally that the integration task can effectively proceed from the armchair. Indeed, much of the seminal work in this area was done already in the early 1900s and the philosophical debate about the interpretation of the experimental data has been ongoing ever since. Still, one might again argue that the interpretation of the relevant theories, which is surely required before the integration task can begin, could just as well be considered a priori. The core idea, in any case, is that work on theories or ideas that are widely spread and established could count as armchair work *even if* the original work that resulted in those theories was not armchair work.

The fourth and final task that Nolan proposes is *Applying Theoretical Virtues*. By 'theoretical virtue', Nolan means things like internal consistency, external

coherence, simplicity, explanatoriness, fertility, unificatory power, and other such comparative as well as internal virtues. It should be noted that it is not untypical in the literature discussing theoretical virtues to assume that they are part of a priori methodology (see Paul 2012). But Nolan may very well be correct in questioning this assumption, because the process of 'applying theoretical virtues' is rarely elaborated on. He suggests that it's epistemically better to accept a theory that better satisfies these theoretical virtues. An obvious explanation for this is that such theories are more likely to be true. Yet, other attempts to justify theoretical virtues can be made; Nolan mentions that they can sometimes be justified with reference to *other* theoretical virtues. For instance, unificatory power may often promote further simplicity and unifying two theories may also increase explanatory value. Hence, the appeal to unificatory power could be justified in terms of these other virtues, if *they* are considered valuable. Perhaps a more direct justification could be drawn from predictive success, as simpler theories may provide accurate predictions. Nolan's suggestion is that this assessment can be conducted in the armchair since it relies on established evidence rather than direct empirical work.

Interestingly, if Nolan is correct about the first three tasks, then even many of the 'inputs' of this fourth task can be considered to derive from a posteriori armchair work. If the commonplaces, new theoretical alternatives, and integration are all armchair activities, then the results they produce, the more sophisticated theories, are already largely a product of armchair work. We can then further compare these sophisticated theories in the armchair, by applying theoretical virtues.

The picture that emerges from Nolan's proposal may seem attractive, since it corroborates much of philosophical methodology without resorting to the controversial notion of apriority. Of course, some philosophers would likely consider this to be a disadvantage, since if the a priori is to have any place in philosophy, then its best defence is exactly that a priori inquiry is needed in cases such as those described by Nolan. A more deflationary reaction to this discussion would be to say that we have a mere terminological debate in our hands. Indeed, does it even matter whether the armchair methods discussed are a posteriori or a priori, as long as they are reliable?

6 Concluding remarks

The conclusion of our discussion regarding the a priori-a posteriori distinction and its role in metaphysics is somewhat negative. The distinction can be drawn and there are various ways to avoid its arbitrariness, but none of the reasonable accounts seem to help to settle issues such as the status of modal knowledge, the demarcation of science and (different areas of) philosophy, or the prospects for naturalized metaphysics. This does not mean that the distinction could not have its uses, but we should be modest in our attempts to use it when it comes to addressing the above issues. It may be more promising to examine the interplay of a priori and a posteriori elements in certain areas of reasoning, perhaps with the goal of improving our overall methodology.

NOTES

1   The discussion in this entry follows and develops on material in Tahko 2011, 2015.

2   For discussion about modal epistemology and the role of modal knowledge in metaphysics, see Sonia Roca-Royes's and James Miller's entries in this volume.

3   For discussion on versions of naturalistic metaphysics, see Matteo Morganti's entry in this volume.

4   See for instance Williamson 2000 for an extensive discussion.

5   However, the issue is not quite as simple as that. There is a relatively new trend in modal epistemology to develop modal empiricist accounts, some of which attempt to provide an empirical basis also for knowledge about metaphysical necessity and possibility. See the articles in Fischer and Leon 2017.

6   For a good overview of some of these challenges, see Casullo 2015. See also the essays in Boghossian and Peacocke 2000.

7   Modal epistemology is covered in more detail in Sonia Roca-Royes's entry in this volume.

8   Again, for further discussion on various accounts of naturalistic metaphysics, see Matteo Morganti's entry in this volume.

9   See Gibbard 1975 for the original example.

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