

# A Priori

Edwin Mares



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**A Priori**

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# **A Priori**

**Edwin Mares**

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*For Sue*

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## Preface

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I had the idea for writing a book on a priori knowledge from giving a few lectures in a colleague's course on epistemology. I found the available books on a priori knowledge out of date or too difficult for undergraduates. I hope this book is more accessible.

I think the topic of a priori knowledge is a good one to teach to undergraduates. It helps to tie epistemology in with the other subjects that they are taught. It overlaps with ethics (especially with metaethics), logic, philosophy of science and metaphysics. I have tried, especially in the later chapters of this book, to make clear the connections between a priori knowledge and these other fields. Anyone who wishes to follow the radical empiricists and reject a priori knowledge should realize the repercussions for these other fields.

I did not write this book only for students. In it, I try to defend the idea that there is a priori knowledge. Often professional philosophers treat a priori justification as if it were something rather spooky. They associate it with Plato's doctrine of recollection or some sort of extra-sensory perception. My chapter on Aristotelian theories of a priori justification is supposed to help alleviate their fears. Many philosophers also remain suspicious of the analytic-synthetic distinction. There are, however, some good recent defences of analyticity. I try to present them in a manner that is accessible to working philosophers (who may not be epistemologists) as well as to students.

Chapters 9–12 are about applications of a priori knowledge. The purpose of these chapters, in addition to showing the importance

of a priori knowledge, is to give a means for evaluating the various theories of a priori knowledge (or the rejection of it). The last chapter is a scorecard of how well all the theories do for their various applications. What I think it demonstrates is that it is unwise to accept a single theory of a priori justification. Different theories seem to work better in different fields of knowledge. It is one of my theses that we should (and can) adopt more than one theory of a priori knowledge.

I could have written much more on the subject. The role of the a priori in science, although discussed in the context of mathematical knowledge, deserves much more attention. I could have had a chapter on the use of thought experiments in science. Are these really a priori? What can they show us about *empirical* laws or theories? Similarly, there is a current interest in the methods used by philosophy itself, especially in metaphysics. Traditionally, it was thought that conceptual analysis is a priori, but Timothy Williamson has recently argued that it is not. I could have written another chapter on this topic. But one cannot include everything in one book, nor even every topic that has to do with a priori knowledge.

## Acknowledgements

In writing this book, I have benefited from discussions with many other philosophers and several people have read the manuscript, either in sections or in its entirety. My greatest debts of this sort are to Stuart Brock and Carrie Jenkins, who both read and commented on the whole manuscript. I am also grateful to Nick Agar, Ismay Barwell, Max Cresswell, David Eng, Simon Keller, Francesco Orillia, Francesco Paoli and Adriane Rini, to the participants at the Conference on Continuity and Discreteness in Urbino, Italy, and to the philosophers of the universities of Macerata and Cagliari in 2009, where I presented parts of this book.

At Acumen, Steven Gerrard's editorial assistance was invaluable, as was Kate Williams's copy-editing. I am also grateful to Sue, Jesse, Tui and, of course, Zermela and Lola.

# 1 Introduction

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## 1.1 What is a priori knowledge?

Consider the statement “Every coloured thing is extended in space”. This seems obviously true. If we think about some things that have no length or breadth or depth, we see that they have no colours. Examples of such things are individual points in space and, at least according to traditional philosophy, thoughts. A point cannot have any colour and neither can a thought (although, of course, we can think about colours). But surveying such objects seems unnecessary. We do not have to check everything that has a colour to discover whether it is extended in space. It seems that we can just know this by thinking about it. Traditionally, philosophers have said that this is something that we can know a priori, that is, we can know it independently of experience. Thus, some philosophers say that we can know a priori that every coloured thing is extended. Our knowledge in this case is supposedly independent of experience.

Let us look at another example. Think of a geometrical figure with three straight sides. Let it also be closed: do not allow any gaps in it. How many angles does this figure have? You know the answer: it has three angles. You do not need to check real three-sided figures to make sure they have three angles. From a consideration of the nature of three-sided figures alone, you can know that they all have three angles. This is a priori reasoning.

Here is a partial list of the sorts of things that philosophers have held that we can know a priori:

- Analytic sentences: for example, “All bachelors are unmarried”, “all vixens are foxes”.
- Mathematical truths: for example, “ $2 + 2 = 4$ ”; “for any natural number  $x$  greater than or equal to 3 there are no numbers  $w$ ,  $y$  and  $z$  such that  $w^x + y^x = z^x$ ”.
- Moral principles: for example, “it is wrong to harm innocent people”.
- Conceptual analyses: for example, “red is a colour and not a shape”; “nothing can be both red and green all over at the same time”; “every coloured thing is extended in space”.
- Logical principles: for example, “ $S$  or not- $S$ ”; “not-( $S$  and not- $S$ )”.

In this book we shall look at the issue of how we know these sorts of things. In Chapters 3–8 we shall examine theories of a priori knowledge and the view that there is no a priori knowledge. In Chapters 9–12 we shall look at various topics that are supposedly the object of a priori knowledge – morality, logic, mathematics, modality and philosophy itself – and apply the theories from the first half of the book to see how well these theories work.

## 1.2 What is so important about a priori knowledge?

Some philosophers deny that we can know anything a priori. In this book, I call these philosophers “radical empiricists” because they think that all knowledge is at least in some way empirical. But it is difficult to explain how we know some sorts of propositions empirically. Two categories of propositions stand out in this regard:

- Propositions that state necessary truths: for example, the proposition that it is necessary that  $2 + 2 = 4$ .
- Propositions that state norms of certain sorts: for example, the proposition that it is morally wrong to harm innocent people.

With regard to the first sort of proposition, my claim is not that it is difficult to explain how we can know empirically that  $2 + 2 = 4$  is true, but rather that it is difficult to understand how we could know empirically that it is necessarily true. According to many philosophers, our experience of the world tells us what happens to be

true; experience does not tell us what is necessary. These philosophers hold that there must be an *a priori* element in our knowing what is necessarily true. I discuss the topic of our knowing what is necessary or possible in Chapters 2, 10, 11 and 12, in my discussions of logical, mathematical and modal knowledge.

Similarly, many philosophers hold that we can know empirically what is the case; but experience alone does not tell us what should be the case. With regard to moral norms, it is difficult to see how they could be purely empirical. Perhaps, as J. S. Mill tells us, we all desire to be happy. But should we want to be happy? How could we find this out empirically?

Epistemology too has norms. It tells us what sorts of propositions we should accept and what sorts of justifications we should use. Clearly, empirical evidence can be relevant to epistemology, but what sort of empirical evidence can be used to determine whether (as reliabilists claim) we should only have beliefs that are produced by reliable processes or (as coherentists claim) we should only have beliefs that are supported by and support other beliefs? Empirical evidence may help us find out which beliefs are produced reliably and empirical investigation may help us find support for our beliefs, but the norms that tell us to find this evidence are not themselves purely empirical. And epistemological theories that we shall discuss contain norms such as these.

Of course there are other norms – legal norms, the rules of games and so on – that are accessible to us empirically. But to many philosophers morality and epistemology seem to be different. I discuss these topics in detail in Chapters 6 and 9.

Radical empiricists have not given in to this appeal to modal, moral and logical knowledge, although they have heard it many times. Often they deny that there are necessary truths or facts about what we should do. Sometimes they argue, with regard to both ethics and epistemology, that norms are facts about social *institutions*. An institution is something that people create, like a government or a club. These philosophers think of morality as a social institution, one that we perhaps do not consciously create, but a human creation nonetheless. On this view, moral norms can be discovered empirically by examining society and epistemological norms can be discovered by examining science. Thus they reject the jobs that *a priori* reasoning traditionally has been given. In Chapter 6, I look at

radical empiricism and the attempt to do epistemology without the a priori. In Chapter 9 I look at radical empiricist views about ethics.

### 1.3 A note on “knowledge”

One problem with the topic of a priori knowledge is that it seems to require us to talk about *knowledge*. But the very definition of “knowledge” is one of the most controversial topics in epistemology, and it would be nice to avoid getting embroiled in this debate. Some philosophers talk about a priori “justification” instead of a priori knowledge. I talk a great deal in this book about justification, but we cannot just replace the notion of knowledge with that of justification. As we shall see in §1.4, there are two distinct notions of a priori knowledge and only one of them has to do with a priori justification. I use the term “knowledge” quite often in this book, but only in an intuitive sense. When there is reason to be more careful, I use “a priori belief” to indicate a belief that has a priori status.

As we shall see, a claim that a belief is a priori can mean one of two things. First, it may mean that its *justification* is in some way independent of experience. In other words, there is support for the claim that does not contain any data taken from experience. Second, the claim that a belief is a priori may mean that the belief cannot be refuted empirically. In such cases, we cannot use empirical data to prove that the belief is false.<sup>1</sup>

Note that these two notions of apriority are not exclusive. We could maintain that a belief is a priori if and only if it is justified independently of experience and cannot be falsified by experience. But I discuss the two basic notions independently of one another. In what follows, when I examine various conceptions of apriority I ask which sense of apriority is meant.

Both of these conceptions need further exploration, so let us look at them in more depth.

### 1.4 A priori justification

The first conception of the a priori holds that an a priori belief is one that is justified or at least capable of being justified independently of empirical evidence. But what sort of independence is this? We rarely, if ever, know anything completely independently of sense

experience. Consider, for example, the analytic sentence “Every bachelor is unmarried”. This is one of our paradigm examples of something that can be known *a priori* (if anything can be). But one cannot know that this sentence is true without knowing the meanings of the words contained in it. We learn the meanings of words by experience: we read them in a dictionary or we are told them by others, or by some similar experience.

Still, many philosophers hold that we can know the truth of this sentence *a priori*. One way of understanding this position is to make a distinction between the *enabling* and *justificatory* roles of experience. Having experience of a certain sort enables us to have the belief that this sentence is true and to justify this belief. This is the experience in which we learn the meanings of the words in the sentence. But, on this view, the justification of the belief that this sentence is true depends only on our understanding of the sentence.<sup>2</sup>

Any epistemology that allows for *a priori* knowledge, apart from strong forms of nativism (see Chapter 4), needs to distinguish between enabling and justifying. Otherwise, any claim about a belief being *a priori* might be undermined by the claim that we learn the concepts involved empirically.

There are two approaches that one can take to defining “*a priori* justification”. First, one can give a general definition of what it is for a justification to be *a priori*, and then examine various theories of *a priori* justification to see whether they are adequate and, in particular, whether their form of justification satisfies the definition. Second, one can examine various theories of *a priori* justification and then extract from them particular definitions of what it means for a justification to be *a priori*. I take the second route.

The reason that I do not want to give a general definition is that it is very difficult to give a definition that is adequately general. Contrast, for example, a belief that the analytic sentence “All bachelors are unmarried” is true with an innate belief. The innate belief is independent of experience because it is unlearned.<sup>3</sup> The analytic judgement is independent of experience because grasping the meaning of the sentence is enough to see that it is true; we do not need to check any bachelors to confirm what it says. But its meaning is learned. In these two examples, we see two very different rationales for claiming that a belief is *a priori*. Now, I am not



claiming that it is impossible to find a definition of a priori justification that adequately covers both of these cases, but I am saying that I do not think it is necessary to do so. If we decide that we want to take the term “a priori justification” as expressing several closely related concepts, it seems to do no serious harm to my project. So I leave it open as to whether there is a single definition of “a priori justification”.

In this book, I look at specific theories of apriority. According to each of these (except radical empiricism), there are a priori beliefs. But the reasons why each of these theories claims that certain beliefs are a priori differ from one another. In each chapter I comment on these reasons and I consider whether they are adequate warrant to call a belief a priori.

### 1.5 Theories of justification

In this book I discuss various theories of a priori justification, such as Aristotelianism, analytic justification and self-evidence. Epistemologists usually think not just in terms of what an a priori justification needs to be like, but rather what a justification of any sort needs to be like. There are many general theories of justification, but the three that I discuss are *foundationalism*, *coherentism* and *reliabilism*.

According to foundationalism, there are basic beliefs. These are beliefs that either cannot or need not be justified. They are epistemologically basic in the sense that they are the foundation for the justification of other beliefs.

Coherentism incorporates a much less linear view of justification. Our beliefs form a mutually supporting whole. There are interconnections between beliefs that make each belief (and the system as a whole) justified. Coherentists define “justification” as follows: a belief is justified if it “fits into” a system of beliefs. In what is perhaps the most popular version of coherentism, a system of beliefs is a set of beliefs that explain one another. A belief fits into a system if it is explained by or explains other elements of the system.

In discussions of a priori justification, the notion of explanation used is often a generalization of our usual notion of explanation. Our normal notions of justification often include physical concepts such as causation. But, as we shall see in Chapter 11, coherence

arguments are used to justify the claim that there are abstract mathematical objects: things that do not exist in time or space and so do not cause events in the normal sense.<sup>4</sup> What these abstract objects do is explain the nature of other propositions that one believes and help to create conceptual links for the agent. For example, in Chapter 11 I look at the use of the notion of a set (a special sort of collection) in mathematics. Many contemporary mathematicians and philosophers think that different objects discussed in mathematics – numbers, functions and so on – are sets. Having this belief justifies the use of properties that mathematicians know hold of sets to understand things about functions, numbers and other mathematical objects. I discuss coherence methods in a priori justification (and a priori falsification) often in this book.

One might think there is a serious tension between coherentism and the claim that there is a priori justification. If at least some of the beliefs in a belief set are empirical, and justification for the person who holds these beliefs amounts to fitting into this set, then it would seem that this justification is not independent of experience.<sup>5</sup> How serious this tension is depends on the exact view of coherence one accepts. But if one adopts a suitably subtle version of coherentism, one can avoid this difficulty. Consider, for example, our belief that  $2 + 2 = 4$ . This belief can predict and explain certain empirical beliefs. It can help to explain why you received the change you did when making a particular purchase. But such explanations might be *asymmetrical*. That is, the belief that  $2 + 2 = 4$  might explain empirical beliefs, but not be explained by any empirical beliefs. In this case, the asymmetry might be used to account for why we can claim that the belief counts as a priori despite the fact that it coheres with a system of beliefs, some of which are empirical.

Reliabilists define “justification” in terms of how we come to have a belief. A belief is justified for reliabilists if it is produced by a reliable belief-forming process. Although we sometimes make errors because of what we perceive, our perceptual mechanisms are generally reliable (if we are not ill, or on drugs, and so on). Thus, our perceptual beliefs (“there is a chair over there”, “this jersey is red” and so on) are justified.

We should, however, be careful to distinguish between reliabilism and the view that it is important to determine whether our belief-forming processes are reliable. Reliabilism entails the latter,

but other epistemologies can hold that whether a means of justification is reliable is important. Coherentists, for example, sometimes hold that we try to accept only beliefs that are formed in reliable ways. Most of us have the belief that we should accept only beliefs that are formed in such ways. If we get into disputes with one another, we often question the reliability of the sources of their information. This sort of move in a debate has force because we believe that reliability is important. Coherentists claim that if we have such beliefs we should try to make our other beliefs cohere with them, that is, we should try to adopt only beliefs that we believe to be reliably supported.<sup>6</sup>

Similarly, reliabilists make use of coherence methods. If a coherence method is a reliable guide to the truth, then a reliabilist has to accept it as an appropriate method for justifying beliefs. Many reliabilists claim that some coherence methods provide good justifications.<sup>7</sup>

### 1.6 Immunity from empirical refutation

One property that is often connected with a priori beliefs is that they are immune from empirical refutation. This means that if we have an a priori belief then there is no empirical evidence that can show it to be false. Consider the definition of the word “bachelor” as “unmarried man”. If you accept “a bachelor is an unmarried man” as a definition, then you take up the commitment to believe that every bachelor is unmarried and a man. If you come to believe that anyone is a married bachelor, say, you will not really reject the belief that all bachelors are unmarried; rather, you will have changed what you mean by “bachelor”. Of course, we can decide to change how we define words, but no empirical evidence can prove that our definitions are incorrect.

Hartry Field takes immunity from empirical falsification to be the defining characteristic of an a priori belief. He says that if a proposition cannot be empirically refuted, we are (all other things being equal) entitled to believe it. His view is called the *entitlement theory of apriority*. Field adopts this view because he does not think there is any reasonable way of defining a priori justification. I think Field is wrong about a priori justification, but his view also seems to me to be viable.<sup>8</sup>

Other philosophers, such as W. V. Quine, have held that immunity from empirical refutation is central to a belief's being *a priori*. As we shall see in Chapters 5 and 6, Quine thinks that all our beliefs are vulnerable to empirical refutation. Here, let us look briefly at an argument due to Philip Kitcher for the same view. Consider, for example, a mathematical belief. Kitcher points out that if a large group of experts – in this case mathematicians – disagree with the belief, most of us would rationally take this as evidence against it. Clearly, the evidence that a large number of mathematicians disagree with a belief is empirical evidence. Thus, this belief is not immune to empirical refutation.

Clearly we can think up possible experiences like those in Kitcher's argument for any case of supposed *a priori* belief. We need to rule out such cases if we want to hold that the empirical immunity conception is reasonable. Field (2005) says that we should demand that in judging empirical immunity we need only consider "direct" evidence against the belief, rather than evidence about what people think of the belief. Field only claims that this is a "rough stab" at a response, but I think it is along the right lines.

Let us consider two short arguments. These arguments are for the rejection of my mathematical belief, but we can call them "justificatory arguments" since they justify the rejection of this belief.<sup>9</sup>

Let us use  $p$  to designate my belief that I am considering rejecting. Here is a more precise version of the first justificatory argument:

1. A large group of mathematicians believe not- $p$ .
2. A large group of mathematicians believing not- $p$  is good evidence for the belief that not- $p$ .
3. I should believe whatever I have good evidence to believe (all things being equal).
4. Therefore, I should believe not- $p$ .

The first premise is empirical. The second may be as well. It might even be supported by induction: in the past, perhaps, when a large group of mathematicians have believed something it has turned out to be right. Thus, we can say that the conclusion is supported by empirical premises. Consider, on the other hand, the following argument. Here  $q$  represent the proposition that the mathematicians have proved that contradicts  $p$ .

1.  $q$
2.  $q$  implies not- $p$
3. Therefore, not- $p$

This argument represents the mathematicians' own reasoning for the rejection of  $p$ .<sup>10</sup> The premises of this argument are both a priori. Thus, the conclusion is justified completely a priori.

The first point to notice is that the conclusions are different. The conclusion of the first argument is about what my attitude should be with regard to  $p$  and the conclusion of the second tells me that  $p$  is false. We can apply Field's point here. The second argument provides us with direct evidence against  $p$ . The first argument gives us reason to reject  $p$ , but it is only indirect evidence against the truth of  $p$ .

By itself, the existence of the first argument does not undermine the claim that  $p$  cannot be refuted by empirical evidence. It is not  $p$  itself that is refuted by empirical evidence; it is the claim that I should believe that  $p$  that is falsified by empirical evidence. But the difference in conclusions can be made relatively unimportant by changing the way the first argument is presented. We can turn it from a deductive argument into an inductive argument:

1. A large group of mathematicians believe not- $p$ .
2. In the past, when a large group of mathematicians have believed a mathematical proposition, it has usually been true.
3. Therefore, not- $p$ .

This is not a deductively valid argument, but an inductively strong argument. Rewriting the argument as explicitly inductive in this way shows how the empirical evidence is supposed to bear on  $p$  itself, not just propositions about what one should believe.

The use of an inductive argument against  $p$ , however, is beside the point. The immunity conception does not say that we can have no empirical evidence against a priori beliefs. Rather, it says that a priori beliefs are consistent with any empirical evidence. Premises 1 and 2 of the above argument are logically consistent with the truth of  $p$ , even if they give us good reason to abandon the belief in  $p$ . For the large group of mathematicians may be wrong in this particular case.

Note that we can combine the immunity conception with the justificational conception and hold that a belief is *a priori* if and only if it is justified by *a priori* means and immune from empirical refutation. Although this view is common in the history of philosophy, I do not think it is a good idea to combine the two conceptions. It makes *a priori* knowledge extremely hard to obtain.<sup>11</sup>

## 1.7 Plan of the book

My aim in the book is to give a survey of views concerning *a priori* knowledge, but also to convince the reader that we do know some things *a priori*. In the twentieth century the *a priori* was looked on with suspicion. There was a revolt against the speculative philosophy of the nineteenth century and there was a movement back to empiricism. Even though the empiricists of the early twentieth century did not completely eschew *a priori* knowledge, they marginalized it. In the middle of the century, Quine attacked the idea that there is anything that we know *a priori* and his criticisms were taken by many to have been conclusive. Now, however, we see a re-emergence of the idea of *a priori* knowledge. My aim, in part, is to support this resurgence.

I also wish to make available and support certain theories of the *a priori*. In particular, my classification of certain positions as “Aristotelian” is non-standard, but I think edifying. I think these positions, which include Aristotle’s, Locke’s, Hume’s, Russell’s and Husserl’s views, as well as those of certain contemporary philosophers such as Laurence Bonjour, can be seen to have very important similarities. I think that Aristotelianism, moreover, can be used as an epistemology of mathematics, of modality, and of the *a priori* elements of natural science.

I am not, however, an advocate of only one theory of the *a priori*. We may have beliefs that are *a priori* in ways different from one another and we may need more than one theory of the *a priori* to explain them all.

The book is divided into three parts. Part I consists of this chapter and the next. These introduce the reader to the central issues involved in the debate about *a priori* knowledge. Part II consists of Chapters 3–8. In these, I discuss various theories of *a priori* knowledge: rationalism, nativism, analyticity, radical empiricism (the

rejection of a priori knowledge), Kantianism and Aristotelianism. In Part III, I apply these theories to a range of types of knowledge that have traditionally been considered to be a priori: moral knowledge, logical knowledge, mathematical knowledge and modal knowledge.

### Further reading

Albert Casullo's *A Priori Justification* (2003) is a very good, although rather technical, survey of contemporary views about a priori justification. Laurence Bonjour's *In Defense of Pure Reason* (1998) also contains a good survey of views concerning the a priori.

Hartry Field's entitlement view is presented in his articles "Recent Debates about the A Priori" (2005) and "Epistemological Nonfactualism and the A Prioricity of Logic" (1998).

Philip Kitcher's rejection of the a priori is in the first two chapters of his *The Nature of Mathematical Knowledge* (1985).

A good survey of contemporary theories of knowledge is Bonjour's *Epistemology* (2002). For a good book on the debate between internalists and externalists, see Bonjour and Ernest Sosa, *Epistemic Justification* (2003).

## **2 Necessity and certainty**

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### **2.1 Taking care of business**

This chapter has two purposes. First, it is a housekeeping chapter. In Chapter 1, I asserted that there is a close tie between necessity and apriority: it seems that all our knowledge of necessities is a priori. In this chapter I set out a framework for talking about necessity: possible-world semantics. I also discuss theories of propositions. I do so because in later chapters we appeal to the notion of a proposition quite often.

The second purpose of this chapter is to discuss further the relationship between necessity and the a priori, and I introduce another property that a priori beliefs are supposed to have: certainty. I present and discuss two famous arguments due to Saul Kripke that attempt to complicate the connection between apriority and necessity. One shows that there are necessities that we know a posteriori (i.e. empirically) and the other shows that there are contingent propositions that we know a priori. Neither of these arguments, I suggest, endanger the claim that a priori knowledge is intimately involved in all our knowledge of necessities. But both arguments are interesting and important, and force us to be careful about the link between apriority and necessity.

I then look at the link between the a priori and certainty. Traditionally, and according to some contemporary philosophers, since a priori justification does not require any input from “outside”, it must be certain. But most contemporary philosophers want to deny this. Some, like Bonjour, claim that it is empirically defeasible. We will look at this view in later chapters. What we shall