

# AN INTRODUCTION TO ONTOLOGY

**Nikk Effingham**

The background of the cover is a photograph of a desert landscape. In the foreground, there is a flat, cracked, light-colored sandy area. In the middle ground, a single, dark, leafless tree stands alone. Behind it, there are large, smooth, golden-brown sand dunes that stretch across the horizon. The sky is a clear, solid blue.

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# **An Introduction to Ontology**

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## **How this book is arranged**

This book is an introductory guide to contemporary ontology in the analytic philosophical tradition, dealing mainly with questions about what things exist, and what those things are like. Except for the first chapter, each chapter examines a different category of entity and the ontological questions surrounding them. However, in ontology, the methodology is itself a prime suspect as a cause of many of the problems. Indeed, recently it has come under renewed scrutiny as philosophers debate exactly how we are meant to answer ontological questions. So every topic-based chapter (except chapter 1) also introduces a different methodological issue for your consideration; in each chapter you'll get to see how that methodological principle is meant to work with regard to the category in question, giving you the chance to see it in action.

Chapter 1 is a straightforward introduction to the basics of ontology for those who either don't know what it is, or they know what it is but fear that it doesn't make any sense. Chapter 2 then introduces the Quinean theory of ontological commitment, as well as the notion of theory choice (i.e., how we determine which theory is correct and by what standard such a choice is made), illustrating how the pieces of methodology function by examining the ontology of holes. Chapter 3 turns to the ontology of properties, including questions not just about whether they exist or not but what they are like if they do exist. During the course of that chapter, we introduce the idea of metaphysical explanation and the role it might play in settling ontological questions. Chapter 4 examines whether numbers exist. We also introduce 'Meinongianism': that there's a difference between what exists and what there is. Chapter 5 turns to modality – questions about possibility and necessity – and introduces possible worlds. We get to see another theory concerning ontological commitment – fictionalism – and how that works with regards to possible worlds. Chapter 6 examines whether space (or spacetime) exists. We examine at this stage how scientific theories can feed into metaphysical reasoning. Chapter 7 examines the ontology of things that exist at other times, e.g., whether dinosaurs or Napoleon exist. We also introduce another methodological tool – the theory of truthmaking – and see how that works with regard to the ontology of time. Chapter 8 examines mereology: the study of parts and wholes. We will look at what composite objects there are, e.g., are there tables, chairs, mountains or goats? If not, how is it that we think there are? In that chapter, we shall examine Neo-Carnapianism, a theory which, if true, would deflate ontological questions to merely being confusions about language. Chapter 9 introduces questions about persistence and whether there are things like statues and people. Finally, in chapter 10, we finish off by deploying a variety of issues from previous chapters to a specific ontological question: whether there are works of music. In that chapter, I end by talking about whether we can distinguish between what exists and what fundamentally exists, and how such a distinction would play a role in practising ontology.

Certainly, if you have never studied ontology, some of the above will sound like a foreign language. Have no fear! Whilst much of ontology sounds initially esoteric, this book will slowly take you through each theory, and each piece of methodology, explaining exactly what is involved and how best to understand it.

## **What this book assumes**

This book is written for philosophy undergraduates but should be suitable for the intellectual sophisticated who are not studying undergraduate courses. Whilst it assumes some passing acquaintance with philosophical theories, all metaphysical and ontological theories will be introduced in detail. What it *does* assume is the ability to understand first-order predicate logic – not the ability to do proofs or truth-tables, but just the ability to read and understand sequents in standard first-order logic.

The symbols I will be using are:

$\forall$	universal quantifier
$\exists$	existential quantifier
$\rightarrow$	material conditional ('if ... then')
$\neg$	negation ('not')
$\&$	conjunction ('and')
$\vee$	inclusive disjunction ('or')
$a, b, c \dots$	names
$x, y, z \dots$	variables
$P, Q, R \dots$	propositions

Those not acquainted with these symbols will be able to find good introductions in a variety of places. I highly recommend Paul Tomassi's *Logic* or, if you want something shorter, Joe Morrison's *Logic*. However, the level of logical aptitude required is only limited. As long as you can translate things like 'All balls are round', 'Nikk Effingham is a philosopher' and 'Some raven is a bird', you find nothing to worry you here.

## What this book leaves unsaid

In many ways, this book is a tissue of lies. It is not a definitive guide to every area of ontology for it was written primarily as a textbook for undergraduates. In light of this, accuracy rightly gives way to pedagogical demands. When reading this book, you should bear in mind how much of what it deals with is contentious, and how what I am offering you are theories for your consideration, not set-in-stone truths dictated to you by some imaginary philosophical establishment. With that in mind, I have not prefaced every sentence with 'Some philosophers believe ...' or 'It is arguable that ...' or other phrases to make clear the tendentious nature of the material. To do so would be unduly annoying for you. So bear in mind that for every theory, every position, every argument (heck, every assertion) contained in this book, there is a serious philosopher somewhere who denies it. Frankly, I find some of the positions you'll find in later chapters utterly ludicrous and have had to grit my teeth and force myself to neutrally state the theories as best as possible. But this is a textbook, not a polemic, and it is a pedagogical requirement that I present to you these theories as best as I think is possible for you to mull over yourself. Similarly, the vast majority of principles and generalizations I state have innumerable exceptions and tweaks that have been ignored for the sake of brevity – I am sure you will encounter many such details as you engage in your independent research and come to see that this introduction glosses over many niceties (which might well prove important to you!). And this is okay, for the main part of any philosophy course is contained *not* in your reading this book but in your own independent research and the independent development of the thoughts and theories presented here. So just bear in mind how you should be reluctant to treat everything this book says as (even if intended to be!) the last word on the topic at hand.

## *The Basics*

### **Ontology**

Crudely, ontology, at least in the context of metaphysics, is the study of what things exist. Obviously, this stands in need of some clarification. For instance, physicists set out to find out what things exist (are there black holes; Higgs-Boson particles; superstrings?) As too do biologists (what insects are there; what antibodies; what plants?) As too do archaeologists (does the lost city of El Dorado exist?) property speculators (is there any radon gas under such-and-such a house?); oil speculators (how much oil is there under the Arctic?); stamp collectors (what stamps are there?); and UFO watchers (are there any aliens?) ‘Are these people’, you might ask, ‘doing what you call ontology? Isn’t ontology something that *everyone* does?’ Of course, the answer is no – ontology is not something that everyone does, and the physicist, biologist, stamp collector and UFO watcher are not engaging in ontology even though they all have a vested interest in finding out what things exist. This is because the ontologist is not interested in the existence of any old things. You will not find ontologists rummaging around your wardrobe, scribbling down on a scrap of paper what things they find in there as they build their ‘list of all things that exist’. Whilst humorous, and whilst it would give me an excuse to rummage around other people’s private belongings without having to live out my childhood dream of being a private investigator, this is not what ontologists do at all. Indeed, there is virtually no fieldwork whatsoever for ontologists are – unlike the physicist, biologist, UFO watcher etc. – interested in far more *general* questions about what exists. All of the examples cited above (subatomic particles, insects, antibodies, buildings, build-ups of gas, stamps and aliens) are examples of **material objects**. The ontologist generally accepts the existence of such material objects (but will, as we shall see in chapters 8 and 9, vary over the details). But this doesn’t even come close to exhausting the things that ontologists are interested in. Far from it! For they are not just interested in material objects, but interested in whether there are more things besides. By this, we *don’t* mean whether there are *immaterial* objects, like angels, God and the Devil (although some ontologists *may* be interested in that as well if they have an interest in the philosophy of religion), but whether there are things like numbers, properties, events, works of music, etc.

Let’s illustrate this with an example. A historian may tell us that, on 1 July 1916, 19,420 British soldiers died during the first day of the Battle of the Somme. Imagine the historian gave an ontologist detailed reports concerning what happened, and what went on, explaining what people were there, how much ammunition each side had, what terrain featured in the battle, and so on. The ontologist would probably agree that all of these things existed – they’re material objects and, with little exception, ontologists believe in material objects. But, they may ask, in addition to the material objects (the guns, the mud piles, the people involved, etc.), were there *also* things like **events**? In other words, if you listed everything that existed, would you write down not just all of the guns, the mud piles, the people and so on but also scribble at the bottom ‘The Battle of the Somme’? Or ‘the event of Private John Smith missing his target with his rifle’? Or any of the numerous events that took place during the

Battle of the Somme? Or would you *not* stick those things on the list? Would you say such things *didn't* exist, and that, in listing all of the material objects (the people, the guns, the geographical features, etc.), you'd have exhaustively listed everything that there was?

There are also more things than events to worry about. The Somme is a place. Do you have to put 'The Somme' on the list – that is, do **places** exist? Or consider this: many people were shot and were in pain. They had the **property** of being in pain. So do we have to add to the list of things that exist 'the property of being in pain'? Or what about the fact that 19,420 people were killed? Does that mean that we need to add in **numbers**? Knowing full well that the number of people who were killed was 19,420, after listing all the material objects, properties and events that existed, do we stick down 'the number 19,420' on the list of all things that exist? Do we stick down *every* number (for surely if one number exists, all of them do)? We can even ask about the trenches. After all, isn't a trench a hole in the ground – it's a lack of earth that makes a trench and surely that lack, that absence, isn't a thing in itself? Or do the tunes that the soldiers whistled during the day (however few and far between the tunes may have been) get put on the list? And why stop the questions there! It's possible that Private John Smith died during the battle even though he survived. So do **possibilities** exist? Do we have to add to our list of objects (and events, and absences, and numbers, and tunes, etc.) the possibilities that could have played out instead?

It is *these* kinds of questions that ontologists are interested in. They examine these broader, more general questions about what things there are. Each of the later chapters will deal with a specific category of things, in order: holes; properties; numbers; possibilities (and possible worlds); places (regions, as we'll call them); objects from other times; objects in general; and works of music. For this chapter, though, we'll keep with elucidating how these kinds of questions even make sense. They are, after all, pretty esoteric sounding, and it's not obvious that finding out whether there are numbers or not (etc.) is a worthwhile, or even intelligible, task. So let's turn to examining some reasons for thinking that these questions are intelligible and intellectually worthwhile.

## Abstract versus concrete

Start by introducing some basic terminology. Ontologists generally split things into two categories: the **abstract** things and the **concrete** things. When we say 'concrete', we don't mean things made of cement – more than mere buildings get to be concrete in the ontologist's use of the word. The concrete things are those things like particles, people, buildings, planets, goats, stamps, etc. 'Concrete', the word generally includes everything that is inside space and time, and usually extends to things like events and places. Indeed, if there are such things, people generally think that ghosts, God, and the Devil (i.e. immaterial things) are concrete. The concrete things (what we can call 'concreta') are the focus of the second half of this book.

Abstract things are things like the numbers, properties, possibilities, facts or propositions. Unlike the concreta, you won't find abstracta anywhere. The number 4 isn't down the back of your sofa, the proposition that  $2 + 2 = 4$  isn't in Washington, the property *being in pain* can't be found and picked up, taken home and sold on eBay (note that we italicize the names of properties). However, they might nonetheless exist (if you think it weird that things that aren't anywhere nevertheless get to exist, we'll discuss this more below). So the abstracta are, crudely, those things which are not in space and time. They are sometimes said to be in **platonic heaven**, and if you read around the subject I'm sure you'll come across that phrase. Plato believed that our world was just a sub-standard version of Heaven.

whilst Heaven contained all of the ‘Forms’. The Forms were what things share when they have something in common. For instance, we are all human and so there is a Form corresponding to what it is to be human, and so all humans participate in these Forms (this is closely allied to the debate about properties that we shall discuss in chapter 3). Plato believed that they were abstract entities, and it has become common to say that they are ‘in’ platonic heaven (where ‘in’ is meant to be read figuratively, for they are abstract and so not really ‘in’ or ‘out’ of anything). So using the term isn’t to endorse the existence of a heavenly realm, but is just a shorthand way of saying that something is abstract, and not in space and time.

This is a very rough idea of what these terms mean, and when reading the literature you have to take what I’ve just said with a full tablespoon of salt rather than just a pinch. For instance, there is no agreement over what should appear on the list of abstract things and what on the list of the concrete. Some philosophers think that properties *are* in space and time (see chapter 3) and that possibilities *are* concrete things after all (see chapter 5). Moreover, my characterization of the divide being one of whether or not such things are in space and time or not is also pretty rough. Not everyone agrees with that (for instance, as already noted, some people place immaterial things in the concrete category even though they aren’t in space, and others use the word ‘abstract’ to apply to entities that are in time but that are not in space), and often the terms are defined differently as suits the purpose of the individual philosopher. But this rough idea will suffice for our purposes here.

## Terminological Alerts!

‘Abstract’ and ‘concrete’ are good examples of where philosophers vary over defining terms. Throughout this book, boxes like these will make clear where there are problems in the literature with how terminology is defined. Not every philosopher uses the same term in the same way, and these boxes make clear when this happens. It is crucial, especially when doing your own independent reading around the subject, that you are clear on exactly what the individual author of a piece of work intends by using certain pieces of terminology, lest serious confusion set in.

Don’t get too hung up on asking what the ‘correct’ definition is. Words like ‘abstract’ and ‘concrete’ are terms of art, and one can freely make up a term of art and define it to mean whatever one wants – there’s no ‘right’ or ‘wrong’ about it! The differences don’t arise because someone is right and someone is wrong, but because metaphysicians haven’t all sat down and agreed what, precisely, the terms mean. Whether this is a good or bad thing – it’s probably not a great thing – it’s just a fact of life that, when you study ontology, you have to be keenly aware that different people might mean subtly different things by their terms, and that these subtle differences can often make for not-so-subtle consequences in any given argument.

## Nonsense versus sense

Questions about concrete things will be far more familiar than questions about abstract things. If I asked you whether or not there was a hippopotamus in the next room, or whether there was a region of space a trillion light years away from earth, such questions are not radically different from questions you would’ve thought about before. Certainly there’s no reason to, say, think that such questions were either gibberish and meaningless, or trivial and not difficult to answer. The question about whether there’s a rather large water-dwelling mammal in the room next to me makes perfect *sense*; you can easily understand what that question *means*. Nor is it trivial to answer. You have to do *something* to find out whether it’s true or not, such as open the door and look, or just sit quietly and see if you can hear the sound of a confused two-ton hippo trashing an office. Similarly for the question about the region of space. Physicists do wonder whether or not there are regions of space that far away, and have spent time trying to determine the answer (which still remains unanswered). So, again, it is neither

meaningless nor trivial. Likewise for all questions about concreta.

When it comes to abstracta, though, it is less clear that we can say the same thing. Some people think that corresponding questions about the existence of abstract things are somehow defective and so can't be the subject of an intellectually informed debate. Let's have in mind some specific examples:

- Does the number 7 exist?
- Does the property *red* exist?
- Does the possibility that I could be the president of Bolivia exist?

You might think that these questions are just gibberish. It's not an uncommon response – just wander up to the next non-philosopher you meet and try and get them to tell you whether or not the number 7 exists and you might be met with a few odd glances or a lot of 'What do you mean?'s. Such people might think the very question is meaningless. After all, not every string of words is meaningful. Whilst 'Is there a panda pole-dancing over there?' is an odd question, it's meaningful. You know what it means for a panda to pole-dance (even though it's unlikely to be the case that there is such a thing going on). Whereas the string of words 'Panda over dancing there pole?' is just meaningless gibberish. We might think of the above questions in the same light, such that they don't even meet a standard whereby they mean anything in the first place. Questions like, e.g., 'Do numbers exist?' end up being as garbled as asking 'Do numbers municipal?'

Alternatively, you might think that these questions make sense, but believe they are trivial to answer. For instance, we might think that it's just obvious that there *aren't* any such things. 'Material objects exist!' you might say, 'But *numbers*? You can't kick the number 7. You'll never find it hanging in a gallery. We'll never detect it through even the most powerful telescope. So how could it exist?' All one needs is a closely held belief that one should only believe in things you can see (or otherwise empirically detect) and numbers get ruled out straightaway.

Finally, some people swing the opposite way. They believe that the questions are trivial but that it's obvious that *every* such thing exists. For such people it's just *obvious* that the number 7 exists. If it didn't exist, what would three and four add up to? Similarly for the other categories. Properties obviously exist as, because we are both human, there is something that you and I both have in common. And if there's something we have in common, then of course that property exists. After all, what does 'There is a ...' mean other than 'There exists a ...'? If *there is* a property that we have in common, then *there exists* a property that we have in common. This triviality response is not an uncommon response either – just ask a mathematician whether there are any numbers and (unless she's particularly philosophically minded) I'm sure she'll happily ream off lots of them for you.

These are all gut reactions some people have when faced with ontological questions (although not simultaneously for, of course, they contradict one another). You might have these gut reactions, or you might not, but they're certainly legitimate – that is, there's *something* to each of them. The rest of this chapter goes through these gut reactions. Each reaction threatens ontology or, at the least, practising ontology as a live discipline. So we must dispense with them if we're to think that ontology is a legitimate, serious subject. In summary, the problematic positions are:

*Position One:* Ontological questions about abstracta are meaningful, but very easy to answer such that entities like numbers etc. trivially exist.

*Position Two:* Ontological questions about abstracta are meaningful, but very easy to answer such that entities like numbers etc. trivially don't exist.

*Position Three:* Ontological questions about abstracta are meaningless.

If all of these positions are false, then ontological questions about abstracta must be meaningful, and must be difficult to answer. And if they're difficult to answer then, you might think, that goes some way to justifying ontology as a discipline. Not the whole way, mind you, for it's meaningful to ask what the shoe size of various dead celebrities is, and that's an intelligible question that's very difficult to answer too, but you don't see the field of Mortgloriapesamplitology being studied in any universities. So it takes more than being meaningful and tricky for a discipline to be worthy of study. But if we dispatch those positions, we'd have made good headway to thinking that ontology was a serious discipline. Moreover, even if the demonstration fails, this still leaves open that ontological questions about concrete objects are meaningful (and difficult to answer), so ontology might not be sunk even if one of the above options did transpire to be the case (and, conversely, demonstrating that ontological questions about abstracta are meaningful and non-trivial doesn't necessarily mean that the same can be said about ontological questions about concreta – see chapter 8 for an example.)

However, it'll be enough to concentrate just on the abstracta for now. So in an effort to show which ontological questions (at least about abstracta) are open questions, we must dispense with the three positions above.

## Permissivists

Start with position one; call it **permissivism**. To see the motivation for it, consider the following statements:

- There is a prime number between 5 and 11.
- The Eiffel Tower and the Empire State Building have something in common.
- There is only one way to legitimately win an election, and that is to get the most votes.

These are all true statements. There is a prime number between 5 and 11, namely the number 7; both the Eiffel Tower and the Empire State Building *do* have something in common for they are both tall and presumably the only legitimate way to win an election is to garner the most votes. Permissivists think this settles the matter – we're done with ontology right here. It might sound a bit odd to say 'There exists something that is a prime number between 5 and 11', rather than simply saying 'There is a prime number between 5 and 11', but that just makes the statement odd to the ear. It doesn't make it *false* by any stretch! If this is right, then numbers do exist, for, as it is true that there is a prime number between 5 and 11, it's true that there exists at least one number (the number 7!). Similarly, properties clearly exist for at least one property, the property of *tallness*, exists for buildings to have in common. And possibilities exist for a possibility is a 'way' and there exists at least one way and there are some 'ways' to legitimately win elections. You can see what the Permissivist is doing where, in natural English, we have a statement of the form 'There is an X' or 'There are Ys' which we should normally assent to, and which is felicitous to utter, the Permissivist just reads straight off from such sentences that X exists or that Ys exist. Ontology, then, is easy. (And it's just as easy to see what things don't exist, e.g., are there any negative numbers that are also positive? No!)

Permissivists have a problem though, as this line of reasoning leads them into contradiction. This can be demonstrated by using **the paradox of non-self-instantiation** (sometimes called 'the paradox of non-self-exemplification'.) It's a bit fiddly, but if we go through it slowly, you'll easily see how it works. The first stage is to demonstrate that permissivism entails that there is a property of *being non-self-instantiating*.

# Stage 1: The property of being non-self-instantiating exists

Take a sentence like:

There is something that I and Barack Obama have in common.

That's true, for we're both men. The permissivist claims this demonstrates beyond a shadow of doubt that there exists something – the property *being a man* – that both myself and Barack Obama have in common. Further, anyone who believes that properties exist will say that we bear certain special relations to some properties but not others. So the property *being a man* and *being shorter than fifty metres in height* are properties I have, whereas *being a goat* and *being taller than fifty metres in height* are properties I don't have. So whilst these properties may exist, I bear some close connection to the first two that I don't to the latter two. Call this relation **instantiation**, e.g., I instantiate the property *being a man* whereas I don't instantiate the property *being a goat*. So far, so good.

But if these properties exist, those properties themselves will have properties. For instance, the property *being a man* is instantiated by six billion people. So it has the property *being instantiated by six billion people*. Or try this:

There is something that *being a man* and *being a goat* have in common.

That statement is also true, for *being a man* and *being a goat* are both properties. So they have something in common, and the permissivist will say that there exists a property that corresponds to that: namely *being a property*. So it's true that:

There exists a property that is *being a property*, which is instantiated by all properties.

If that's true, then *being a property*, as it is itself a property, instantiates itself. But that's fine – there's nothing wrong with that. It just turns out that some properties instantiate themselves (which, in turn, means that those properties have something in common, which in turn entails that there exists a property of *being self-instantiating*). Again, so far, so good.

Now turn back to the properties *being a man* and *being a goat*. Are they themselves men or goats? What an odd question! But the answer is surely no. I can go for a drink with John (who is a man and instantiates *being a man*) and I can go for a drink with Jack (who is a man and instantiates *being a man*) but I can't go for a drink with *being a man*. I can't sit around the pub and have a chat and a beer with a property. That'd just be nonsense! It's an abstract thing, not itself a person. So we mustn't mistake the property *being a man* for itself being a man. Ditto for *being a goat*. There could be but one goat in the world (call it Billy). Billy would instantiate *being a goat* – but clearly *being a goat* isn't itself a goat as then there'd be two goats: Billy and *being a goat*. But there *can* be just one goat, so clearly *being a goat* is not itself a goat. But if *being a man* is not a man, it does not instantiate itself. And if *being a goat* is not a goat, it doesn't instantiate itself either. But that means that the following is true:

There is something that the properties *being a goat* and *being a man* have in common.

where that 'something' is their not instantiating themselves. The permissivist must say that the above sentence leads us to say that the 'something' exists (after all, it's a true statement that starts with 'There is ...' so we should believe that the bit following 'There is ...' exists). That 'something' that exists is the property *being non-self-instantiating*, and it is that which the properties have in common. Before continuing, look carefully at the moves being made here. It seems that if we accept permissivism (and that for any 'There is an X' statement that we should assent to in English, it entails that X exists) we must accept that the property *being non-self-instantiating* exists. Stage one is complete. The second stage of the argument demonstrates that no such property can exist, for if it d



it would entail a contradiction.

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## Stage 2: There cannot be any such property!

This is where it all goes horribly wrong: there cannot exist a property which is *being non-self-instantiating*. To prove this, take the trivial truth that for any property and any thing, that thing either instantiates that property or it doesn't (an instance of 'the law of excluded middle'). So either:

First disjunct: *Being non-self-instantiating* instantiates itself

or

Second disjunct: It is not the case that *being non-self-instantiating* instantiates itself.

(A 'disjunct' is the thing that flanks the 'or' in logic, e.g., in  $P \vee Q$ , P and Q are the disjuncts.)

Take the first disjunct. Anything that instantiates *being a goat* has to be a goat; anything that instantiates *being a man* has to be a man; in the same vein, anything that instantiates *being non-self-instantiating* cannot instantiate itself. So if the first disjunct was the case, and it instantiated itself, then it cannot instantiate itself. But that's a contradiction! So the first disjunct cannot be the case.

That just leaves the second disjunct. It also proves to be problematic. Anything that doesn't instantiate itself must instantiate *being non-self-instantiating*. So if the second disjunct was true, and *being non-self-instantiating* did not instantiate itself, then it must instantiate *being non-self-instantiating* – which is itself! So if it didn't instantiate itself, then it *would* instantiate itself. But that's a contradiction as well.

So if either disjunct were true (and if *being non-self-instantiating* exists, then one of them must be true), we have a serious problem. The only way to avoid contradiction is to deny that *being non-self-instantiating* exists in the first place. But, as Stage 1 demonstrated, if permissivism is true, then *being non-self-instantiating* does exist. Conclusion: to avoid contradiction, permissivism must be false (and indeed, any theory that entails the existence of such a property must be avoided).

Before we move on to other alternatives, you should note that whilst this line of reasoning may work, it may well not. As with many parts of this book, I don't mean to lay down the final word on the matter, and that is just as true for permissivism. There are still permissivists out there, as well as some who think that things like *being non-self-instantiating* can exist, contrary to the above line of reasoning (for instance some people, 'dialetheists', think this sort of reasoning just demonstrates that *sometimes* a contradiction *can* be true). But, for now, we shall rest content with there being at least a *prima facie* case against permissivism. We should, therefore, doubt that ontological questions can be trivially answered.

## Terminology Alert! Nominalism and Realism

As I've already noted, ontologists are terrible when it comes to terminology. 'Nominalism' and 'realism' make good examples. The word 'nominalism' gets used in many different ways. Here I use it to refer to those theories that don't maintain the existence of abstract objects. This is far from being the only acceptable use of the term.

*Example 1:* some people use the terms exclusively to refer to a position whereby one thinks properties exist and, more specifically, are things called 'universals'. 'Nominalism' is the position that there are no universals (although not the position that properties do not exist – just as long as they aren't universals, you're a nominalist).

*Example 2:* nominalism has been used to refer to the position that there are no sets (see chapter 3). This is sometimes called Harvard nominalism.

*Example 3:* realism is sometimes just taken to be the view that how the world is is independent of what humans think about it.

None of *those* uses are the same as that in this book. So, when reading literature in metaphysics and ontology, do be aware that other metaphysicians might be using slightly different terms. Just as long as we are explicit about what we mean, as I am here, there should be no grounds for confusion. If, on the other hand, you aren't careful in this manner, then you are liable to end up very confused as you engage in further reading around the topic!

## Nominalism

The remaining positions that threaten ontology are that it's trivial that abstracta don't exist (position two), or that it's just gibberish to say these things in the first place (position three). When we don't believe that a certain category of entities exist, we say that we are **anti-realists** about that category (whereas, if we do believe that entities in that category exist, we are **realists** about that category). Either option leads us to being anti-realists about all abstract objects – a position called **nominalism**.

If you take position two, and think that ontological questions about whether numbers, properties and so on exist are such that trivially those things don't exist, then you think that anti-realism about abstract objects is trivially true. So you're a nominalist, and think nominalism is trivially true. Those who think that ontological questions are open questions – that is, serious questions that are difficult to answer – are also often nominalists. They just don't think it's *trivial* whether things like properties and numbers exist, and instead agonize over whether to be a realist or anti-realist about them, before settling on them not existing (hence, they become nominalists). One might imagine, though, that the nominalist who thinks nominalism is trivially true and the nominalist who thinks nominalism is a serious, debatable question aren't that far apart. I would suggest that those who think nominalism is trivially true do so for very similar reasons to those who think nominalism is non-trivially true. The only difference is that the former tend to think that the reasons for nominalism being true are so overwhelmingly compelling that they are irresistible; they simply cannot even imagine how one would set about denying them. But then there's no fundamental difference between the two, it's just that the nominalist who thinks nominalism is trivially true is more assured that their nominalist convictions are sound. To get a grip on why we might think this, have a look at the traditional motivations for being a nominalist about abstracta.

### Motivation 1: Naturalism

If things like numbers, properties, possibilities and so on exist, where are they? For anything, it's trivial that it's either *in* space and time or it's *not* in space and time (again, another instance of the law of excluded middle). But, so the thought goes, it is just plain bizarre for numbers to be in space and time. It's not as if you'll find the number 7 somewhere in a coal mine in Slough, or the square root of 2 lost somewhere behind the sofa, or the property *being a man* somewhere on Pluto. Those kinds of assertions are just plain crazy (so the thought goes; we'll see positions to the contrary in chapter 3). But this means that these things are *not* in space and time, and not anywhere in the universe. **Naturalism** is the thesis that everything is located somewhere in space and time, and that the contents of reality are contained somewhere in the physical realm. Given naturalism, there are no disembodied spirits, no Gods or angels and, most importantly for our purposes, no abstracta outside space and time. So those who endorse naturalism (which is, so supporters believe, one of the lessons of contemporary science) will not endorse the existence of unlocated abstracta.

### Motivation 2: Causal issues

Connected to this are causal issues. If abstracta are outside space and time, then (so the nominalist intuition goes) they can't have any *causal* influence on us or the world around us. After all, if they're outside space and time, it just seems outlandish to think they have causal powers. The standard view of contemporary science is that everything that has causal powers is within space and time, and within the purview of the study of physics and the natural sciences. Even those who disagree, such as those who believe in supernatural entities like God, who can miraculously affect the universe through divine power, are not at all likely to think that abstract objects have such abilities. God might be able to miraculously cause things to happen from beyond the confines of the universe, but it's a big leap from that to thinking that the number 47 does exactly the same – God can magic into life a burning bus but the number 47 has never done anything!

This is problematic for realists about abstracta, because some find the **Eleatic principle** to be very convincing. That principle states that anything that exists must have causal powers, and that it is somehow redundant to believe in things that don't *do* anything. After all, it'd be very strange for physicists to postulate the existence of particles that didn't have any effect on anything. If they don't *do* anything, why believe in them? The Eleatic principle, then, appears to rule out abstract objects.

### **Motivation 3: Epistemological issues**

Following from this: if they don't have causal powers how do we even *know* about them. I know that the chair I sit on exists because it has a causal influence on me (it causes photons to bounce into my eyes, causing me to see a chair); I know that New York exists because, even though I've never been there, there is a chain of events that connect us (for instance, I've seen photographs of New York, other people talk about New York; New York features prominently in *Friends*, etc., each being a fact that we can trace at least some of its causes back to New York existing). Even things from the past (such as Chingiz Khan, the dinosaurs, the Big Bang, etc.) all have some causal chain between them and me. More generally, it seems that anything that I know exists must have some causal connection to me. To say otherwise sounds a bit weird. Imagine I say that I know there are aliens which exist a billion light years away from us, so far away that I couldn't possibly know about them (for I would have had to travel, if it were even possibly, travel faster than the speed of light). So not only don't I have any evidence, but it seems *impossible* for me to have any evidence. It seems that this fact alone rules out my being justified in believing that there are such aliens, hence this fact alone rules out my knowing that they exist. So the worry is that, even if abstracta existed, there'd be no way to know about them. And if there's no way to know about them, you shouldn't go around asserting that you believe in them. For instance, if you meet someone who agreed they had no way of knowing that they were ill but believed it anyway, you'd think them an irrational hypochondriac. Similarly we should doubt people who believe in entities that they could not possibly know about. So believing in abstracta seems to bring with it serious epistemological issues.

### **Motivation 4: No explanation**

We might fear that abstracta, in being outside space and time, won't appear in our best physical theories. Abstracta, in having no causal powers, will never cause anything to happen. Causation and explanation are tightly knit, so you might think that if they don't have causal powers they'll never feature in any explanation of what goes on in the world. Further, if abstracta can never be known about, then they can never feature in any justified explanation of the world. In other words, it seems that abstracta will never explain anything – if you have any phenomenon that needs explanation, re-

assured that you will never mention abstracta in that explanation.

But it seems obvious that we shouldn't believe in anything that plays *no* explanatory role whatsoever. Imagine some physicists come up with a theory that explained everything in the universe. As they crack open the champagne, break out the cigars and ready themselves for fame (admittedly probably not that much fame as physics isn't as sexy as stories about celebrity smut), a single physicist pipes up and says he has a *competing* theory. Worrying that they've been gazumped or outdone, they ask him to explain it. 'Aha!' he says 'It's *exactly* like your theory except it includes extra entities that I call uselessnesses.' When asked what the uselessnesses do, and why they should be included in the theory, the physicist just shrugs his shoulders: 'They don't *do* anything, they're just there. You can't see them, you can't find them, you can't detect them, and they don't affect anything. They just hover around doing nothing at all.'

What a ridiculous theory it would be, and how unbelievable. The uselessnesses have *no* explanatory power. Uselessnesses are useless! And if they have *no* explanatory power, then you shouldn't believe in them. Similarly, some nominalists worry that the same applies to abstracta, and that they have *no* explanatory role, so they shouldn't be believed in. (In chapter 4, we shall see arguments to the contrary.)

## Back to trivial nominalism

So there are four reasons for one to be a nominalist about abstracta. Certainly, those nominalists who think ontology is a serious discipline, and that it's not obvious that realism is true, have these sorts of motivations. So it's not a stretch of the imagination to think that when someone tells me that they're a nominalist about abstracta, such that it's *trivial* that there are no abstracta, that they have similar motivations. It's just that the latter think it even more obvious that these reasons are the case, or more obvious that such reasons rule out abstracta. But this means that every reason to think the former motivations are defeasible is also a reason not to think nominalism is trivially true. And there are such reasons, as we shall see later in the book.

Moreover, as we shall see in the next few chapters, anti-realism about abstracta (whether one thinks it is trivially true or otherwise) raises some very awkward questions. After all, it appears at first glance that we talk about abstract entities all of the time, so if you're a nominalist (whether you're motivated towards nominalism because you think it's trivially true or otherwise), you must still explain away that putative reference. For instance, we say things like 'There is a prime number between 5 and 11' and that seems true enough. But how can it be true if there are no prime numbers between 5 and 11? A thorough investigation of how to solve this problem will have to be postponed until later chapters but it's enough to say that, even if you think nominalism is trivially true, you still have to explain exactly what's going on there. Compare: Imagine you meet a Creationist who says that Creationism is obviously true. When you try and convince them that Creationism is false, because of the fossil record and so on, it'd be deeply unsatisfying if they dismissed your concerns by merely saying that, as the position was *obviously* true, they didn't need to say *anything* about the fossil record. The same applies to the nominalist – even if their position is trivially true, they must still provide explanations of what we appear to truly talk as if there are abstract objects. Indeed, in the same way that the fossil record seems to demonstrate that Creationism cannot be trivially true, we might think that the very presence of such a problem for nominalism demonstrates, in one fell swoop, that nominalism cannot be a trivial thesis either.

## Is it all gibberish?

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So ontological questions aren't trivially true, nor does it look like ontology is threatened if they're trivially false. The final option was that neither is the case as all of this talk is sheer gibberish. The same factors come into play again. If you think it's *gibberish* to assert that numbers or such exist, then you're also a nominalist in so far as nominalists believe that *all* that exists are concrete things like material objects. Your motivation for nominalism would be somewhat different, for now you would be a nominalist because you cannot even *understand* realism about abstracta. But again, exactly what has just been said about the nominalist above will apply here as well. Nominalism is a bona fide position in ontology, so you are still signing up to a traditional ontological position, and even if you think that assertions about abstract entities existing are nonsense, you are still going to be pressed into having to answer objections to nominalism. Compare with a Creationist who thought evolution was simply meaningless – even then they *still* have to answer the awkward questions about the dinosaur fossils. The same applies here. The nominalist who thinks realism is gibberish is still going to have to pay careful attention to, and form cogent replies to, those objections to their position.

So the remaining two options that seem to threaten ontology as a practice don't seem to be that troublesome. It isn't that they threaten *ontology*, it's just that they threaten *realism* about abstract objects. And threatening realism, whatever your motivation for that, is a mainstream position in ontology. Should you endorse it, you aren't avoiding ontology at all, and will instead find yourself in the company of many contemporary metaphysicians. With that in mind, let's assume that ontology is a serious discipline worthy of study, and press on with the project of answering ontological questions. In the next chapter, we will start to introduce some methodology for how we set about answering these questions.

## Chapter summary

In this chapter, we have:

- introduced what ontology is.
- shown the problems with thinking ontological questions are easily answered such that just about everything you truly talk about with a 'There is' or 'There are' sentence trivially exists.
- explained what nominalism is, and examined some problems with being a nominalist. So it can be trivial that ontological questions are easily answered.

## Further reading

Those interested in a general introduction to issues with abstract entities should read Chris Swoyens' article (2008). As for attacks on ontology, we will see more of them in later chapters. For permissivism, you might want to look to Amie Thomasson (2010a) and Thomas Hofweber (2005), as well as a theory called 'Neo-Fregeanism' which is very similar to permissivism (a good, although challenging, article on it is by Matti Eklund (2006)).

## *Methodology*

### Metaontology

Once we've settled on ontological questions being open and difficult questions, we have to figure out how we're meant to answer them. That is, we need to establish a methodology for determining which ontological theory is correct. This chapter lays out some of the more standard methodological principles that metaphysicians rely upon. However, such matters are a mesh of thorny issues. While ontology is one of the oldest areas of study, it has not, as yet, been lucky enough to develop a widely agreed upon methodology. It is a far cry from, say, the scientific disciplines with their hypothetical-deductive method, and their rigorous application of statistics and numbers to yield solid, clearly justified results. The sciences are a mature discipline – whilst their methodology might not be perfect (for proof, pick up a book on the philosophy of science!), their conclusions are built on far more stable foundations than those you'll find in ontology. Normally, there are no predictions to verify or falsify ontological theories (although see chapter 6), no computer program we can run a set of data through to tell us whether abstracta exist or not, no particle accelerator so big or so powerful that it could determine whether or not there were numbers or events. Nor is it entirely clear, at present, exactly what takes the place of such empirical verifications when it comes to a topic like ontology. Essentially, the methodology just isn't clear. As we'll see, different ontologists try and answer these questions in radically different ways, starting off with different preconceptions (and, sometimes, very obscure or apparently groundless preconceptions). And of these different methods and theories concerning how to settle vexing ontological questions, no theory or method has, as yet, come out on top.

So ontology is an old discipline, but an immature one – a misanthrope of the intellectual areas that have never quite left home to make it on its own in the world. But don't be deceived into thinking this is a *bad* thing – at least, not in the sense of putting you off studying ontology. That'd be crazy: every discipline needs to mature, and every discipline needs to work hard to both acquire and justify its methodology. Just look at the sciences and the Scientific Revolution. It would have been a damn shame if the scientists of the Enlightenment had given up and gone home because they hadn't entirely sorted out the methodological details of their discipline, rather than powering through to bring about the massive advances in knowledge that they did. Similarly, you'd think that they found it *exciting* to be engaged with the discipline at such a stage, and that participating in the crafting of the overall methodology wasn't a hardship, but an intellectual joy.

The study of how ontology is to proceed, what its methodology should be, and whether ontology is even a worthwhile project, is called **metaontology** (or, sometimes, metametaphysics, which should be etymologically obliged to be about the methodology of metaphysics in general, not just ontology, but at present almost always refers just to the methodology of ontology). So ontology is the study of what things exist, and metaontology is the study of ontology and how ontology is to proceed. And it is indeed an exciting, febrile area of debate which this book will also examine alongside the standard

ontological issues. Each chapter of this book will introduce a new metaontological theory (including more metaontological positions like those from the first chapter that deflate ontological inquiry and make ontological questions look relatively trivial to answer). By examining these methodological questions alongside seeing how ontology is practised, you'll have a chance yourself to see how the methodology has evolved, which should give you a better chance of being able to evaluate whether such methodologies are flawed or not.

At this stage, I am sure that you are left with a sense that ontologists are hugely divided over not just the questions that they are trying to answer but also over how they are even to answer them. This sense is the correct one – ontology and metaontology are both practising a roaring trade at the moment, fuelled by some pretty wide-ranging, and often deeply divisive, disagreements. As you approach this subject, and read this book, you will be struck by the divisions, you will be struck by the lack of globally accepted theories and you will be struck by how much of the literature has been produced in the relatively recent present. These disagreements are not (or, at least, I hope are not) a sign of confusion, dissension or that the discipline is somehow defective, but a sign that it is in the process of maturing. You are fortunate to have a chance to study it at such a stage. If this book instils in you with enough enthusiasm to carry on keeping up with ontology once you have graduated, you will get the chance to watch the field grow and develop. In studying ontology, then, people should be jealous of you, for only rarely does one get to be there at the moment a discipline begins to flourish. Like the scientists during the Enlightenment, you should revel in these questions: about what exists, about the methodology to decide such things; about whether it is worth practising at all. Certainly do.

## Theory choice

Nonetheless, even amongst the dissension, there are some principles used to choose among competing theories which are fairly widely accepted. The rest of this chapter lays out these standard pieces of methodology and – as a worked example – shows how we might apply what we have learned both in this chapter and the last, to the ontology of holes.

Start with the notion of **theory choice**. We engage in theory choice all of the time. Sometimes we engage with it in fairly simple cases. Imagine you intend to watch a film this evening. One friend tells you that they read in the local newspaper that the film is excellent. The other friend tells you that they downloaded it off the internet and thought it was awful. So you have two theories that say competing things about the film: one that says that such-and-such a film critic's reviews are to be respected (and so you should see the film) and another that says that your friend's own opinions about illegally downloaded films are to be respected (and so you shouldn't). When weighing up those theories, different factors might come into play. You might, for instance, recall that your second friend has been right every time before, so you have evidence that the latter theory is right. Or you might suspect that your second friend has an ulterior motive, and doesn't want you to go to the cinema so he can seduce you instead. You would then have an alternative explanation for your friend's opinions about the film that doesn't involve the film being bad, and this could lead you to favour the first theory. In any case, you can weigh up the theories and decide which is better and decide whether you should see the film.

Theory choice can also be more serious. Detectives investigating murders have to weigh up competing theories all of the time, e.g., did the butler do it? Did the victim fake a suicide? What

explanation is there of Dr Lucky's fingerprints being on the murder weapon? (Or what have you.) And of course, you find theory choice in things like science. We can compare a geocentric view of the solar system (whereby the sun revolves around the earth) with a heliocentric view of the solar system informed by the science of Galileo and Einstein (whereby the earth revolves around the sun). The geocentric theory conflicts with the vast majority of our observations, whereas the heliocentric view predicts most of what we observe (but not everything for even the best, current, physical theory doesn't predict every observation we make). Hence, it's rational to choose the heliocentric theory.

The same thing happens in metaphysics. The generally agreed upon view is that we should carry out what is called a **cost-benefit analysis** of the theories on offer. That is, for each theory we figure out the benefits of that theory and then figure out those things that are detrimental about it. Then we compare how it performs in light of this with each of its competitors and hopefully we will be able to weigh up which theory is better overall. This analysis is particularly apt for ontology, as in most cases where we need a theory to account for a certain phenomenon or solve a certain problem, no theory manages to do so perfectly – there are always some costs or downsides of believing it. So all we are left with being able to do is determine which theory has the best balance of costs and benefits overall.

The divisions in ontology over methodology also stretch to making clear which things count as costs and which as benefits. The rest of this chapter examines some of the theoretical virtues that might factor into one's cost-benefit analysis. Along the way, we'll look at how these virtues feed into an ontological topic – the existence or non-existence of holes – using that as an example to highlight how these virtues are meant to work.

## Virtue 1: Coherence with intuitions

One of the virtues that a philosophical theory is often said to possess is that it bears out our intuitions. Where we intuitively think that there are chairs, or that time passes, or that it is morally obligatory to save drowning children, or that there are no true contradictions, or that solipsism is false, etc., it's a good thing when a theory entails that this is true. Conversely, when something is intuitively false, it's a bad thing if it is entailed by the theory. So a theory that entails that there are no chairs, that nothing changes, that it doesn't matter whether you save drowning children or have an ice cream and water, that they flounder, that there are contradictory truths or that only you exist, and so on, would, in each case, be a theory with costs. (Those things that we intuitively think are true are often called **folk intuitions** as they are meant to be the kind of intuition that the everyday kind of person – a member of the 'folk' – believes intuitively.)

Notice that I don't say that a theory which coheres with our intuitions is true, nor do I say that a theory which challenges them is false. I am saying that coherence with our intuitions is one of various costs and benefits in play. So be clear: to consider coherence a virtue is not to believe that all of what we intuitively believe is true and unrevisable on philosophical grounds. Such a position would be exceedingly dubious, both because what we think is intuitively true varies over time (and, indeed, from culture to culture), so we'd be remarkably lucky if our intuitions turned out to be exactly the right set of intuitions to have, and because there might be times when you *have* to give up on a folk intuition, for instance, when we have a paradox (an example of which is, say, the paradox of the statue and the lump in chapter 9). So don't be fooled into thinking that ontology is just apologetics for our gut feelings. Certainly, though, there's something to the idea that coherence with intuition is a good thing – after all, if two theories varied *only* with regard as to what intuitions they bore out, then it



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