

Introduction

My aim in this study is to examine a cluster of interrelated issues in metaphysics, logic, and the philosophy of language, a common factor being the importance that I attach to *sortal* concepts in my treatment of these issues.¹ A sortal concept is a concept of a distinct *sort* or *kind* of individuals. Individuals may be either *concrete* (like chairs and people) or *abstract* (like propositions and sets), but my concern in what follows will mostly be with concrete individuals and the kinds to which they belong.² Where concrete individuals are concerned, kinds may be *natural* (horses, trees, electrons, and so on) or they may be *artefactual* (tables, books, computers, cities, and so on), although in the present study I place much more emphasis on the former. This stress on the concrete and the natural is motivated by the conviction that entities in this class must enjoy some sort of ontological priority over both abstract and artefactual objects – although the defence of this conviction is not something that I undertake in the ensuing pages.

Sortal concepts are characteristically governed by *criteria of individuation and identity* – metaphysically grounded semantic principles which determine what are to count as individual instances of the sorts or kinds in question and the conditions for their identity or diversity at a time and (where this is appropriate) over time. Criteria of identity may be the same for many closely related sortal concepts – for example, for the concepts of various different kinds of animals – but differ radically for sortal concepts relating to different ontological categories: for instance, for *geological* as opposed

¹ The term ‘sortal’ itself we owe to John Locke: see his *An Essay Concerning Human Understanding*, ed. P. H. Nidditch (Oxford: Clarendon Press, 1975), III, III, 15.

² For more on the abstract/concrete distinction, see my ‘The Metaphysics of Abstract Objects’, *Journal of Philosophy* 92 (1995), pp. 509–24.

to *biological* sortal concepts.³ Thus I take it to be evident that *mountains* are not governed by the same identity criterion as *mice*. Where two sortal concepts are governed by different criteria of identity, it simply makes no sense to identify an individual falling under one of these concepts with an individual falling under the other.

This is one of the principal claims that I advance in this study, and I defend it in depth against a rival position advocated by adherents of the relativist conception of identity – a conception most famously championed by P. T. Geach.⁴ The implications of this claim for metaphysics are profound, especially insofar as it provides a means to block various reductivist strategies, and I shall devote a substantial part of this study to illustrating this in connection with the issues of personal identity and the mind/body problem. I argue that *persons* constitute a distinct sort or kind of entity and are not to be identified with the biological entities in which they are embodied. The position that I defend is not, however, to be confused with any version of Cartesian dualism.⁵

In the final third of the book I examine in detail the semantics and logic of sortal terms in natural language, although inextricably intertwined with this discussion is an account of the place of sortal concepts in the formulation and empirical confirmation of scientific laws and theories. Amongst other things, I maintain that the most satisfactory approach to the semantics of sortal terms (or, at least, of natural kind terms) is to accord them a genuinely referential or name-like role, regarding their referents (sorts or kinds) as *universals* conceived in the manner of ‘Aristotelian’ or ‘immanent’ realism. I also urge that scientific law-statements are best interpreted precisely as expressing propositions purporting to concern such ‘real’ sorts or kinds, and predicating of them properties and relations which attach only derivatively to their individual exemplars or instances. The approach that I recommend in this study is shown to have considerable advantages over more orthodox nominalist and inductivist accounts of scientific laws and scientific method.⁶

³ For more on the notion of an ontological category, see my *The Four-Category Ontology: A Metaphysical Foundation for Natural Science* (Oxford: Clarendon Press, 2006), especially Part I.

⁴ See P. T. Geach, *Reference and Generality*, 3rd edn (Ithaca, NY: Cornell University Press, 1980).

⁵ My fullest defences of the position that I now call *non-Cartesian substance dualism* may be found in my *Subjects of Experience* (Cambridge: Cambridge University Press, 1996) and my *Personal Agency: The Metaphysics of Mind and Action* (Oxford: Oxford University Press, 2008).

⁶ Some of these advantages are explained more extensively in my *The Four-Category Ontology*, Part III. However, the logical aspects of my position are developed most fully in the present study, which for that reason alone constitutes an indispensable adjunct to *The Four-Category Ontology*.

Finally, I argue that when it comes to the question of precisely which sorts of things exist, our inquiries must be guided by a judicious mixture of *a priori* metaphysical principle and *a posteriori* scientific theory-construction.⁷ Such an approach, I maintain, will entitle us to claim to be ‘carving nature at the joints’ without pretending to unwarrantable infallibility in such matters.

In most of what remains of this introduction, I shall focus on certain important topics which crop up repeatedly throughout the study, and which accordingly find no concentrated and exhaustive treatment in any one place. Two of these topics are associated with alternative readings of the deliberately ambiguous title of the first version of this book, *Kinds of Being*. On one reading of that phrase, it is intended to convey my wish to defend the thesis that the verb ‘to be’ has a variety of uses, or may play a variety of different logical roles. On the other reading, it is intended to highlight two other pivotal contentions of this study. The first of these is that particular objects are individuable and identifiable only as particulars of this or that *sort* or *kind* – there are no ‘bare particulars’.⁸ The second is that the notions of ‘individual’ and ‘kind’ are mutually dependent, with neither being in any sense more fundamental than the other – a corollary of which I take to be that individuals and kinds are ontologically on an equal footing, at least in the sense that neither may be reduced to the other, even though their manners of existing may obviously differ.

The Varieties of ‘Is’

I distinguish between the following four uses of ‘is’ as a copula. (1) The ‘is’ of *attribution*, as in ‘Socrates *is* wise’ and ‘Grass *is* green’. (2) The ‘is’ of *identity*, as in ‘Napoleon *is* Bonaparte’ and ‘Water *is* H₂O’ (at least on one common reading of the latter). (3) The ‘is’ of *instantiation*, as in ‘Mars *is* a planet’ and ‘A horse *is* a mammal’. And (4) the ‘is’ of *constitution*, as in ‘This ring *is* gold’ and ‘A human body *is* a collection of cells’. I do not, however, claim that all of these uses of ‘is’ are equally fundamental from a logical point of view. I regard the ‘is’ of attribution as being logically

⁷ This kind of relationship between metaphysics and empirical science is something that I recommend and defend more generally in my *The Possibility of Metaphysics: Substance, Identity, and Time* (Oxford: Clarendon Press, 1998), Chapter 1.

⁸ The *Oxford English Dictionary* does not have an entry for ‘individuable’, nor indeed for the uglier ‘individuable’, but such a word is clearly needed. I form the adjective ‘individuable’ from the verb ‘individuate’, by analogy with the formation of the adjective ‘separable’ from the verb ‘separate’, and from the adjective ‘individuable’ I form the noun ‘individability’.

redundant, a relatively superficial feature of the English language. As for the 'is' of constitution, I suspect that it, too, is not logically irreducible, although I shall commit myself to no definitive analysis of constitution statements in this study. But the other two uses of 'is' so far mentioned I do consider to be logically primitive, even if for some purposes the 'is' of identity may effectively be defined in terms of the 'is' of instantiation.

Now, this still leaves one other important use of 'is' to which I have not yet alluded: the 'is' of *existence*, as in 'The Dodo *is* no more'. I take this use of 'is' also to be logically primitive, but I do not follow current orthodoxy in identifying its role with that played in symbolic logic by the so-called (but in my view misnamed) existential quantifier, '∃'.⁹ That is to say, I do not regard 'is', in the sense of 'exists', as being a *second-level* predicate, although relatively little in this study depends crucially on my taking it to be a first-level one. One thing that I should especially stress in this connection, however, is that I most emphatically do *not* wish the title of this study to convey the impression that I postulate different *kinds of existence*, as opposed merely to different *kinds of thing that exist*. 'Exist' is univocal. This, it should be noted, is not inconsistent with my acceptance, a few moments ago, that individuals and kinds may enjoy different *manners* of existing, for this was not intended to imply any ambiguity in the term 'existence'. Rather, what I intended to accede to was such relatively uncontroversial claims as that concrete individuals exist at specific times and places, whereas kinds, being universals, are not spatiotemporally localized in their existence.

Individuals, Kinds, and Realism

As I have just said, I hold that there are no 'bare' particulars, only individual instances or exemplars of certain sorts or kinds – *tokens* of certain *types*, in another terminology. No doubt lip service is customarily paid to this thesis by many if not most modern philosophers, but I do not think that its far-reaching implications are even yet sufficiently appreciated by more than a few. I also hold, as a corollary of this thesis, that the notions of an 'individual' and of a 'sort' or 'kind' are opposite sides of a single conceptual coin: each is understandable only in terms of the other. Individuals are necessarily individuals *of a kind*, and kinds are necessarily kinds *of individuals*. In consequence, I maintain that realism with regard to individuals, or particular objects – the belief, in my opinion correct, that they may exist independently of the human or indeed any other mind – implies

⁹ This is a point on which I have changed my mind since the publication of *Kinds of Being* in 1989. I explain why in Chapter 4 below.

realism with regard to sorts or kinds. I cannot, then, accept John Locke's famous contention that 'All Things, that exist, [are] Particulars' and that '*General and Universal*, belong not to the real existence of Things; but *are the Inventions and Creatures of the Understanding*'.¹⁰

Realism with regard to sorts need not, however, be unqualified. Perhaps only *natural* kinds need to be accorded a wholly mind-independent ontological status – although this, of course, raises the thorny problem of precisely how we are to draw an objective distinction between natural and non-natural kinds. I shall come to this in a moment. Observe, however, that even granting the general connection between individual and sortal realism, to deny the reality of non-natural kinds (such as artefactual kinds) does not entail denying the reality of individuals instantiating those kinds, so long as the individuals in question can be regarded as also instantiating one or other real, natural kind. Thus, even if *tables* do not constitute a real kind, an individual table might still be acknowledged to be a real particular if it could be identified as, say, a tabular-shaped collection of pieces of wood. My own view is that such an identification would be incorrect, however. If this means that my kitchen table does not really exist, then so be it! Perhaps indeed it is a sort of fiction.¹¹ But whether artefactual kinds are in fact unreal is, I should stress, an issue on which I remain agnostic in this study, although I shall commonly talk *as if* they are real.

With regard to the distinction between natural and non-natural kinds, my own view is that the crucial distinguishing feature of natural kinds is that they are subjects of *natural law*. Laws of nature, I contend, are expressed by statements concerning sorts or kinds, although derivatively they also concern particulars inasmuch as the latter instantiate one or another sort or kind.¹² And the kinds that they concern are, precisely in virtue of that concern, *natural* kinds. Thus *gold* qualifies as a natural kind because there are laws governing its form and behaviour – such as that it is weighty, ductile, malleable, soluble in aqua regia, and so forth. Similarly, *mammals* constitute a natural kind, in virtue of there being such distinctively mammalian laws as that mammals are warm-blooded and that they suckle their

¹⁰ See Locke, *An Essay Concerning Human Understanding*, III, III, 1, and III, III, 11.

¹¹ This seems to be the position of Peter van Inwagen in his *Material Beings* (Ithaca, NY: Cornell University Press, 1990). For an interesting alternative approach, which retains realism concerning artefacts, see John Heil, *From an Ontological Point of View* (Oxford: Clarendon Press, 2003), Chapter 16.

¹² In *Kinds of Being*, I said at this point that laws of nature are *propositions* concerning sorts or kinds. Now, however, I would prefer to say that laws are the *truthmakers* of natural law statements. I say much more about truthmakers and truthmaking in my *The Four-Category Ontology*, especially Part IV.

young. From these examples, incidentally, it will be apparent that I see a close connection between laws and the *dispositional* features of things – a connection that is explored extensively in Chapters 9 and 11 below. By contrast with the case of these natural kinds, there are no natural laws about tables or books or other such artefactual kinds.

Semantics, Metaphysics, and Necessity

At many points in this study, I make claims to the effect that certain propositions variously constitute *semantic* truths, *conceptual* truths, *metaphysical* truths, *necessary* truths, or *a priori* truths. Something therefore needs to be said about how I understand the status of and relationships between these ways of characterizing propositions. The fact is that I have no fully worked-out theory of such matters, although I do have views concerning some of the implications that any such theory should have. My realist predilections in metaphysics persuade me to regard metaphysical truths as revealing fundamental, and often necessary, features of a largely mind-independent reality. At the same time, I am uneasy with, because more than a little mystified by, the idea of metaphysical necessities that are not ultimately *a priori* in character. This is despite the fact that at some places in this study I do not challenge the currently popular notion of a *posteriori* metaphysical necessity.¹³ *Natural* or *physical* necessity is another matter, I believe, and I am content to explicate this in terms of a *posteriori* natural law.

Such a position inevitably raises profound questions concerning the very possibility of metaphysical knowledge and its relationship with empirical scientific inquiry and theory-construction – questions which, for the most part, I do not directly tackle in the chapters that follow.¹⁴ It also raises questions concerning concept-formation and the connection between metaphysics and the semantics of natural language. With regard to these latter

¹³ The modern notion of a *posteriori* metaphysical necessity is, of course, due in large measure to the work of Saul A. Kripke: see his *Naming and Necessity* (Oxford: Blackwell, 1980). I discuss it critically in a number of places, including my ‘On the Alleged Necessity of True Identity Statements’, *Mind* 91 (1982), pp. 579–84, my ‘Identity, Vagueness, and Modality’, in José L. Bermúdez (ed.), *Thought, Reference, and Experience: Themes from the Philosophy of Gareth Evans* (Oxford: Oxford University Press, 2005), pp. 290–310, and my ‘A Problem for A Posteriori Essentialism Concerning Natural Kinds’, *Analysis* 67 (2007), pp. 286–92.

¹⁴ However, my current views about such matters are most fully set out in my *The Possibility of Metaphysics*, Chapter 1, and my *The Four-Category Ontology*, Parts I and III.

questions, one thing that I would wish to emphasize is that conceptual truths, and their embodiment in the semantic structures of our native tongues, are not just for us to make up as we will. They are not for the most part merely the expression of more or less arbitrary stipulative definitions or culture-bound conventions. How we do and should conceptualize the world is substantially constrained by the way the world is, quite independently of our values and interests. And hence to the extent that metaphysics deals in conceptual truths it may at once claim to be addressing the nature of reality and profitably utilize the method of linguistic analysis – although I by no means subscribe to the view that the analysis of ‘ordinary language’ exhausts the business of philosophical investigation and readily concede that the structure of language is, on its own, a very uncertain guide to the structure of reality.

However, we must surely also concede that if our conceptual scheme is moulded by the way the world is, then this can ultimately only be because it reflects our experience of the world – or, if not always just our own experience, then perhaps also that of our evolutionary forebears. And this brings us again to the question of the relationship between metaphysics and empirical science. Here I should say that I see the proper relationship between scientific and metaphysical thinking as being one of complementarity and cooperation, rather than one of opposition and rivalry. Both have as their ultimate aim a closer coincidence between the way we think of the world and the way the world is: in short, both are concerned with the pursuit of objective truth. But, as I see it, metaphysics and empirical science differ crucially in their attitudes towards the content of experience. For the scientist, experience is a source of evidential support for speculative explanatory hypotheses, and as such its content is accepted relatively uncritically, even if it is often at least partially interpreted in the light of prevailing scientific theory. For the metaphysician, by contrast, the content of experience – and, more especially, the categories and relations that serve to structure that content – are themselves the target of critical inquiry and systematic explication. In taking this stance, I align myself in some respects with a Kantian view of the aim and scope of metaphysical thinking, although many of the metaphysical theses advanced in the following chapters are much more Aristotelian than Kantian in character and spirit.¹⁵

To conclude, then: because of their quite different attitudes towards the content of experience, metaphysics can help both to underwrite some of

¹⁵ As I explain in my *The Possibility of Metaphysics*, Chapter 1, I disagree fundamentally with the transcendental idealism of Kant and wholeheartedly endorse Aristotle’s metaphysical realism. What is needed for progress in metaphysics, I believe, is a judicious mixture of the insights of Kant and Aristotle.

the theories of empirical science and yet also to curb the wilder speculations of scientists and the ambitions of some of them to claim a monopoly of truth and understanding. Metaphysicians cannot afford to ignore developments in scientific theory, but they only promise to render themselves foolish in the eyes of posterity by slavishly accepting current scientific orthodoxy.

New Developments

In preceding sections of this introduction, I have said much about the distinction between ‘individuals’ and ‘sorts’ or ‘kinds’. I have also made it clear that I regard sorts or kinds as being *universals*, whereas the individuals of which I have spoken are *particular objects* that are instances of – that *instantiate* – such sorts or kinds. However, since writing *Kinds of Being*, I have come round to the view that not all particulars are particular *objects* – that is, items that, in an older terminology, might be described as being *individual substances*. I now believe that we have to include in our ontology the items that many contemporary philosophers call *tropes*, but which I prefer to call – in deference to an older tradition – *modes*.¹⁶ Another traditional term for such items is ‘individual accident’, and some modern philosophers call them ‘particularized properties’ or ‘property instances’. Calling them property *instances* implies – correctly, as I believe – that they are instances of property *universals*, with the further implication that these universals are to be distinguished from those that are instantiated by particular *objects*, that is, from *sorts* or *kinds* as I understand the latter.

What we have in place now, then, is nothing other than the *four-category ontology* to which I have alluded in earlier pages, my conversion to which is the most significant change in my metaphysical thinking since I wrote *Kinds of Being*.¹⁷ This is the ontology that we find briefly sketched in the opening passages of Aristotle’s *Categories*, the foundational text for

¹⁶ For an important modern account, see Keith Campbell, *Abstract Particulars* (Oxford: Blackwell, 1990). The term ‘trope’ we owe to D. C. Williams. I do not favour the term ‘abstract particular’, because one prevalent philosophical use of the adjective ‘abstract’ has the implication that the items that it describes – for example, *numbers* – do not exist in space and time, whereas tropes are typically not thought of in this way. For further discussion, see again my ‘The Metaphysics of Abstract Objects’.

¹⁷ I first explicitly announced my allegiance to this ontology in my *The Possibility of Metaphysics*, pp. 203–4. The ontology is, of course, the subject of my later book, *The Four-Category Ontology*.

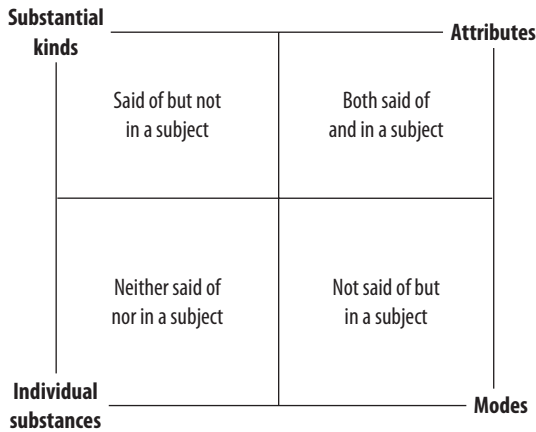


Figure 1 The Aristotelian Ontological Square, version I

all subsequent systems of categorial ontology.¹⁸ It may be most perspicuously represented by a version of the diagram that is known as ‘the Ontological Square’, shown below in Figure 1.¹⁹ The terms designating the corners of the Square in Figure 1 are not translations of Aristotle’s own terms for the items in question in the *Categories*, but are nonetheless traditional ones. In particular, Aristotle spoke of ‘primary’ and ‘secondary’ substances in the *Categories*, where I have used the terms ‘individual substance’ and ‘substantial kind’ respectively. But he makes it perfectly clear that what he regards as being ‘secondary’ substances are precisely the *species* and *genera* (that is, the *sorts* or *kinds*) of ‘primary’ substances, and that the latter are particular *objects*, such as a particular horse or a particular table.

As will be seen from Figure 1, Aristotle considers that substantial kinds or species are ‘said of but not in a subject’, that attributes are ‘both said of and in a subject’, that modes are ‘not said of but in a subject’, and that individual substances are ‘neither said of nor in a subject’. I confess that I am not myself entirely happy with this way of explicating the relevant differences between entities belonging to the four different categories, partly because ‘said of’ ostensibly expresses a *linguistic* rather than a metaphysical

¹⁸ See Aristotle, *Categories and De Interpretatione*, trans. J. L. Ackrill (Oxford: Clarendon Press, 1963).

¹⁹ We owe this name for the diagram to Ignacio Angelelli: see his *Studies on Frege and Traditional Philosophy* (Dordrecht: Kluwer, 1967), pp. 12–15.

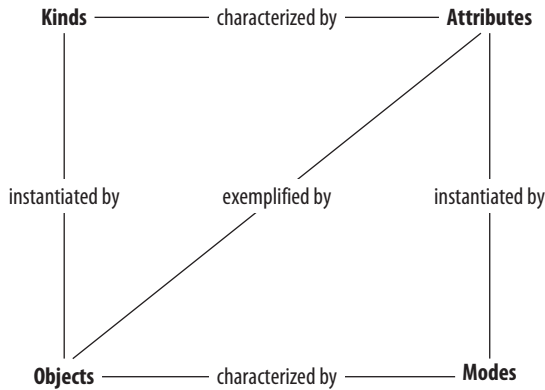


Figure 2 The Ontological Square, version II

relation and partly because the meaning of ‘in a subject’ is somewhat obscure, being suggestive of a *spatial* relation which seems inappropriate in at least some cases. Anyway, whatever may be the virtues or drawbacks of Aristotle’s version of the Ontological Square, my own preferred version is somewhat different and is displayed in Figure 2.

It may be observed that in Figure 2 I have abbreviated ‘substantial kinds’ to ‘kinds’ and have replaced the somewhat archaic ‘individual substances’ by ‘objects’. These are merely terminological niceties and nothing much hinges on the choice of labels for the four corners of the Square. What is more significant is that the key relationships between entities belonging to the different categories are differently expressed in my version of the Square – and are expressed there purely in terms of two fundamental *metaphysical* relations, *instantiation* and *characterization*. Kinds are characterized by attributes and instantiated by objects, attributes characterize kinds and are instantiated by modes, modes characterize objects and instantiate attributes, and objects are characterized by modes and instantiate kinds.

It will be noticed that my version of the Square also includes a ‘diagonal’ relationship between objects and attributes: the former, I say, *exemplify* the latter. However, I do not regard exemplification as being a *fundamental* or *primitive* metaphysical relation, like instantiation or characterization, since I regard it as coming in two different varieties – ‘dispositional’ and ‘occurrent’ – each of which is a different ‘resultant’ of instantiation and characterization, the difference consisting in the *order* in which it is ‘composed’ out of these two relations. To be more explicit: an object *O* exemplifies an attribute *A* *dispositionally* when *O* instantiates some kind, *K*, that is characterized by *A*; and an object *O* exemplifies an attribute *A* *occurrently*

when O is characterized by some mode, M , that instantiates A .²⁰ The two types of exemplification can thus be represented in terms of two different ‘routes’ that can taken around the Square from the bottom left-hand corner to the top right-hand corner.

This conception of the dispositional/occurrent distinction, although it invokes the four-category ontology, is not fundamentally at odds with the way in which I understood that distinction in *Kinds of Being*. Hence, the chapters dealing with dispositions in that book have not required very extensive revision in the present one. This will become more apparent when we come to them. But whereas, in *Kinds of Being*, I had to regard the distinction between occurrent and dispositional predication as basic and irreducible, with the four-category ontology at my disposal this is no longer so. However, the system of *sortal logic* developed in Chapter 11, which remains unchanged from that presented in Chapter 9 of *Kinds of Being*, does not exploit in full the ontological resources of the four-category ontology. It would be perfectly possible to extend that logic so as to do this, but I deemed it unnecessary for the purposes of this book. For these purposes, it suffices to deploy a logic which quantifies only over items on the *left-hand* side of the Ontological Square – that is, only over particular objects and the kinds that they instantiate.

The upshot of these new developments is, then, that although the four-category ontology provides, I believe, a deeper and more illuminating metaphysical foundation for many of the logical and ontological claims that I advanced in *Kinds of Being*, it does not stand in any kind of tension with those claims, which I am consequently happy to advocate even more confidently in this version of the book.

²⁰ Not everyone will like my choice of the word ‘occurrent’ to contrast with ‘dispositional’, but I greatly prefer it to the more common ‘categorical’ and regard the occurrent/dispositional distinction as a modern counterpart of the Aristotelian distinction between the *actual* and the *potential*, differing from the latter perhaps only verbally. Here I should emphasize, however, that this Aristotelian distinction, as I understand it, should not be confused with the modern metaphysical distinction between the ‘actual’ and the (merely) ‘possible’. In particular, I have no desire whatever to imply that dispositions are *non-actual* in the latter sense – that is, that to ascribe a disposition to an actually existing object is merely to say something about how that object is in some ‘possible world’ distinct from the ‘actual world’. Indeed, I have no sympathy at all for the metaphysics of possible worlds quite generally.