CHAPTER I

Introduction

> Some kind of knowledge of logical forms, though with most people it
> is not explicit, is involved in all understanding of discourse. It is the
> business of philosophical logic to extract this knowledge from its
> concrete integuments, and to render it explicit and pure.
>
> Bertrand Russell (1914)

As I mentioned in the Preface, I have given this book the subtitle *A Study
in Philosophical Logic* in recognition of Bertrand Russell, who coined the
term 'philosophical logic' in the passage quoted immediately above.[1] It is
unfortunate, in my view, that many philosophers now seem to have
forgotten the origin of this term and, instead of using it in Russell's very
useful sense, take it to mean instead something like *the philosophy of logic(s)*,
which is at once broader and narrower than what, I think, Russell primar-
ily had in mind: broader inasmuch as the philosophy of logic(s) is con-
cerned, inter alia, with evaluating consistency and completeness proofs for
various systems of formal logic – that is, with *metalogic* – and with
adjudicating between different rival systems of formal logic (for instance,
different formal systems of modal logic); and narrower inasmuch as the
philosophy of logic(s) is less concerned with what may aptly be called *the
logic of natural language*, as opposed to systems of formal logic which utilize
artificial symbolic languages. As I understand Russell, the primary aim of
philosophical logic is to reveal the *forms of thought*, to the extent that
thoughts are propositional in character and thus capable of standing in
logical relations to one another, and this requires it to focus on thought as
it is most naturally expressed, in the shape of sentences of one or another
natural language. As I explained in the Preface, it is in pursuit of this aim
that I have singled out the focal topics of the book's remaining nine
chapters – namely the central logical notions of *reference*, *predication*,

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[1] Bertrand Russell, *Our Knowledge of the External World* (London: George Allen and Unwin, 1922),
p. 53.

identity, *modality*, and *conditionality*. It is my belief that much – though by no means all – that needs to be said concerning the forms of thought can be said in terms of these key notions.

I shall keep the rest of this Introduction brief, restricting it to a short outline of the contents of the remaining chapters of the book, but I refer readers once more to the Preface for a statement of my primary intentions and guiding thoughts in writing the book. The remainder of the book is divided into four Parts, dealing respectively with the topics of *reference and predication* (Chapters 2 to 4), *identity* (Chapters 5 and 6), *modality* (Chapters 7 and 8), and *conditionality* (Chapters 9 and 10).

I REFERENCE AND PREDICATION

In Chapter 2, 'Individuation, reference, and sortal terms', I argue – contrary to the adherents of most versions of the so-called 'direct' theory of reference – that singular reference to an individual cannot in general be secured by a thinker without that thinker's grasping, at least implicitly, a *criterion of identity* which that individual satisfies, where such a criterion is linked to a family of general terms of the 'sortal' variety. This is a claim that I have defended elsewhere, notably in my *Kinds of Being: A Study of Individuation, Identity, and the Logic of Sortal Terms* (Oxford: Blackwell, 1989) and more recently in my 'Sortals and the Individuation of Objects', *Mind and Language* 22 (2007), pp. 514–33. Here I argue afresh for the claim. My defence of the claim does not, however, commit me to the truth of a so-called 'descriptive' theory of reference, as such a theory would normally be understood. Moreover, I distinguish my version of the claim – which I call 'categorialism' – from a more demanding and consequently less credible version, called 'sortalism'. According to my version, singular thought about an individual is available only to a thinker who at minimum grasps – even if only implicitly and somewhat imprecisely – to which ontological *category* the individual in question belongs, thereby allowing that the thinker may be seriously in error concerning any *specific* sortal concept under which that individual falls.

Chapter 3 is entitled 'Two styles of predication – dispositional and occurrent'. In this chapter, I am concerned solely with what are sometimes called *material* predications, as opposed to *formal* predications. As I understand this distinction, predications of the latter kind predicate merely 'formal' properties and relations, such as *existence* and *identity*, of their subjects, whereas predications of the former kind predicate 'material' properties and relations – that is, genuine *universals* – of their subjects. The

implication is that material predications, as I understand them, are *exist-ence-committing*: they commit the person who makes such a predication to the existence of the relevant universal. Hence, this is a thoroughly anti-nominalist view where such predications are concerned. However, I also believe, in line with other previous work of mine, that material predica-tions further subdivide exhaustively and exclusively into two sub-kinds: *dispositional* predications and *occurrent* predications. This is an idea exten-sively discussed in my previously mentioned book, *Kinds of Being*, and more recently in my *The Four-Category Ontology: A Metaphysical Founda-tion for Natural Science* (Oxford: Clarendon Press, 2006) and *More Kinds of Being: A Further Study of Individuation, Identity and the Logic of Sortal Terms* (Malden, MA and Oxford: Wiley-Blackwell, 2009), the latter being a revised and extended version of *Kinds of Being*. But my treatment of the topic in Chapter 3 goes considerably beyond these earlier treatments in important new ways. In it, I also take the opportunity to correct some misconceptions that critics of my position have fallen prey to.

In Chapter 4, 'Ontological categories and categorial predication', I return to two important topics involved, either explicitly or implicitly, in the preceding two chapters: the notion of an ontological *category* and the notion of *formal* predication. My view is that a predication in which an entity is said to belong to a certain ontological category is one of the formal kind, the implication being that ontological categories should not be thought of as being high-level *universals* and, correspondingly, that categorial concepts should be thought of as being 'formal' rather than 'material' ones. Strictly speaking, then, such categories should not be included in an inventory of *what there is*: they do not belong to the existential content of reality and are not 'entities' of any kind – although this in no way compromises the mind-independent truth of categorial predications. In the course of accommodating the notion of categorial predication, I criticize the ontological presuppositions of the type of formal predicate logic that contemporary philosophers have inherited from the founders of modern quantificational logic, notably Gottlob Frege and Bertrand Russell, and propose some major reformations. This carries further forward the task, begun in my *Kinds of Being*, *The Four-Category Ontology*, and *More Kinds of Being*, of constructing a system of formal logic which perspicuously reflects the neo-Aristotelian onto-logical presuppositions of my own preferred system of categorial ontology, which identifies *four* fundamental ontological categories – those of *individual substance*, *substantial kind*, *individual mode or accident*, and *universal attribute*.

Here it is perhaps worth mentioning again that I regard *existence* as being a 'formal' property, in the same sense in which I take identity to be a 'formal' *relation*. I also contend that the notion of existence, like that of identity, is a primitive and unanalysable one. The existence predicate, I maintain, is a so-called 'first-order' predicate, not a 'second-order' one, as Frege, Russell, W. V. Quine and very many modern analytic philosophers suppose. (It is largely a matter of taste whether we say 'second-*order*' or 'second-*level*' here, so my choice of the former is not meant to be significant.) It is important in this connection not to confuse the claim, which is certainly still very widely held, that '– exist(s)' is not a *first*-order predicate, on a par with '– run(s)' or '– eat(s)', with the claim, often associated with Kant, that '– exist(s)' is not a predicate *at all*. The latter view is scarcely credible, if taken literally. The former view, however, arises from the widespread doctrine that the logical form of propositions ascribing existence is *quantificational* – so that, for instance, 'Tigers exist' should be understood to be logically equivalent to, or indeed analysable as, 'Something is a tiger'. Quantifier phrases, as they are standardly construed by philosophical logicians, have the logical status of *second*-order predicates – that is, predicates of (first-order) predicates. However, in my view, existence is *not* properly expressed by a quantifier – the tendentiously named 'existential' quantifier, standardly symbolized by '∃'. '– exist(s)' really *is* a first-order predicate, on a par, as far as logical syntax is concerned, with '– run(s)' and '– eat(s)'. Nonetheless, because the existence predicate is a formal rather than a material one, it would be wrong in my view to suppose that existence is a real *universal* – and hence wrong to suppose that existence is something that itself *exists*. There is nothing at all paradoxical in saying this: indeed, on the contrary, to say that *existence exists* should strike most philosophers as absurd.

2 IDENTITY

Chapter 5, 'What is a criterion of identity?', looks in more depth at the notion of such a criterion that was first introduced in Chapter 2. This chapter is based on my paper of the same title which appeared in *Philosophical Quarterly* 39 (1989), pp. 1–21. I have retained its original title for this chapter and have revised it only where it deviates from my current views on its topic, because it has been widely referred to in the intervening years and I therefore thought it appropriate to make it available, in a form as close as possible to its original one, in the present volume. The only significant way in which I have changed my mind about things said in the

original version involves certain matters covered in Chapter 2, concerning the manner in which children might be equipped to form identity-judgements about perceptible material objects in their immediate environment. Accordingly, I have now brought what I say in Chapter 5 into line with what I say in Chapter 2 on the matters in question.

In Chapter 6, 'Identity conditions and their grounds', I advance from the more semantically oriented concerns of Chapter 5 to explicitly metaphysical ones, where questions of identity are at issue. Assuming, in line with the conclusions of Chapter 5, that entities of different kinds very often possess different *identity conditions* – determining, for instance, what possible changes they can intelligibly be supposed to persist through over time – the question arises as to the *source* or *ground* of these conditions. One view which I resolutely reject in this chapter is the idea that these conditions have a purely *conceptual* basis and are to that extent the workmanship of the human mind, as John Locke might have put it. Instead, I argue in favour of a metaphysically realist view of how identity conditions are grounded, according to which their source lies in the very *essences* of the entities concerned, with 'essence' being construed in a realist and broadly neo-Aristotelian fashion consonant with the neo-Aristotelian categorial ontology espoused in earlier chapters. A very important aspect of my own account of essence – whether or not it is faithful to Aristotle himself in this respect – is that I deny that essences are themselves *entities* of any kind. In other words, I take the concept of essence to be, in the terminology introduced earlier, a *formal* rather than a material one.

3 MODALITY

Chapter 7 is entitled 'Identity, vagueness, and modality'. In this chapter I challenge the widely held view that predications of identity can never be *vague* or *indeterminate* in respect of their truth-value and never be *contingent*, other than as a consequence of features of the language in which we express them – that is to say, that the source of such vagueness or contingency can never be *ontological*, as opposed to semantic or epistemic, in character. Here I focus on two very well-known attempts to uphold each aspect of this widely held view, namely Gareth Evans's attempted proof that there cannot be 'vague objects' and the alleged proof of the necessity of identity that is attributable, independently, to Saul Kripke and Ruth Barcan Marcus. These two supposed proofs are interestingly parallel in certain important respects and both, in my view, suffer from

essentially the same underlying fault, which renders each of them subtly question-begging. The vagueness question is particularly important, from a metaphysical point of view, because if my opponents are correct it is difficult to see how our common-sense ontology of 'ordinary objects', such as tables and horses – Aristotle's 'primary substances' – could be held to reflect the true nature of mind-independent reality. Instead, we would seem to be driven to endorse a much more 'revisionary' and 'sparse' ontology, acknowledging the reality only of 'simple' material objects, such as the fundamental particles posited by physics, or indeed the reality only of a *single* material object – the physical cosmos as a whole – as some extreme ontological monists maintain that we should.

Chapter 8, 'Necessity, essence, and possible worlds', focuses solely upon the semantics, logic, and metaphysics of modality. Very commonly in recent times – thanks especially to the seminal work of Saul Kripke on the foundations of modal logic – the notion of a necessarily true proposition is explicated in the following way: such a proposition, it is said, is one that is *true in every possible world*. However, this explication is no clearer than the key notion of a 'possible world' upon which it draws. In this chapter, I argue that this notion is thoroughly obscure and really of no use at all in explicating either the notion of necessity or the metaphysical ground of necessary truth. Instead, I appeal for these purposes once more to a neo-Aristotelian notion of *essence*, building on recent work of mine on this theme in, for instance, my paper 'Two Notions of Being: Entity and Essence', in Robin Le Poidevin (ed.), *Being: Developments in Contemporary Metaphysics* (Cambridge University Press, 2008). The conception of essence that I defend is, as I say, a neo-Aristotelian one, in stark contrast with the current mainstream conception, which attempts to define essence in terms of necessity, rather than vice versa. In defending this approach, I consciously draw upon insights that are to be found in Kit Fine's important recent work on the topic of essence and modality, although my own views on these matters do not exactly coincide with his in every important respect.

4 CONDITIONALITY

In Chapter 9, 'The truth about counterfactuals', I develop a distinctive account of the logic and semantics of counterfactual conditionals which departs in important respects from all other existing accounts, most notably the highly influential account of David Lewis. Of course, the interpretation of conditionals quite generally is notoriously

controversial – much more so than that, say, of conjunctive or disjunctive propositions. It is still hotly debated, for example, whether conditionals fall into two logically distinct classes – *indicative* conditionals and *subjunctive* conditionals – and equally hotly debated whether all indicative conditionals are so-called *material* conditionals. Another much-disputed question is whether the notion of conditionality, at least in the case of indicative conditionals, is explicable in terms of the notion of *conditional probability*, rather than vice versa – a matter to which I turn in the final chapter of the book. In the present chapter, I argue in defence of a *unified* theory of conditionals, embracing both indicatives and subjunctives, which explicates them in terms of a generalized notion of *necessity* – this notion admitting various more specific modal interpretations dependent on context. One very important implication of the account is that the *logic* of conditionals, including counterfactuals, is reducible to a variety of standard modal logic. This chapter is essentially a revised and updated version of my paper of the same title, 'The Truth about Counterfactuals', *Philosophical Quarterly* 45 (1995), pp. 41–59, although the system of conditional logic that I defend was first aired much earlier, in my 'A Simplification of the Logic of Conditionals', *Notre Dame Journal of Formal Logic* 24 (1983), pp. 357–66. As with Chapter 5, I thought it best to restrict revisions here to a necessary minimum, because the original paper has been quite widely referred to since it first appeared in 1995. One reason why I consider the work of this chapter to be particularly important is that it can be drawn upon to challenge a view that has recently gained some currency, according to which our knowledge of *modal* truths, quite generally, can be explicated in terms of our knowledge of counterfactual conditionals. I believe the very reverse of this to be the case, precisely because I consider the logic of conditionals to be reducible to a variety of modal logic.

As I have just indicated, Chapter 10, 'Conditionals and conditional probability', is ultimately motivated by the question whether the notion of *conditionality* – the notion canonically expressed by the logical connective 'if' – is explicable in terms of the notion of *conditional probability*, as the latter is standardly understood in the mathematical theory of probability. A positive answer to this question has been very ably defended by Dorothy Edgington, whose work consequently poses a serious threat to my own attempt to frame a unified theory of conditionals which draws instead upon *modal* notions and standard *modal* logic. In this chapter, I argue that Edgington's position is unsustainable and that, in fact, the correct

8   *Introduction*

direction of explanation is *from* the notion of conditionality *to* the notion
of conditional probability, not vice versa. In the process of arguing for this,
I subject the standard ratio-based definition of conditional probability to a
number of criticisms and propose in place of it a definition of conditional
probability which is framed in explicitly conditional terms – and hence in
terms fully consonant with my own unified theory of conditionals.

PART I

Reference and predication