

Gerle, Rod, *Possible Worlds*, Chesham: Acumen, 2003, pp.viii + 216, GBP 40.00 (cloth), GBP 16.95 (paper).

Philosophers nowadays make extended use of the notion of possible worlds. Informally, the concept is used to talk about possibilities—ways the world might have been. But the use goes far beyond that; possible worlds are employed in connection with a wide range of issues, from the debate over the nature of necessity to the problem of evil. David Lewis famously writes:

I think that it is clear that talk of *possibilia* has clarified questions in many parts of the philosophy of logic, of mind, of language, and of science – not to mention metaphysics itself. [Lewis 1986: 3]

While philosophers generally acknowledge the usefulness of the notion of possible worlds, few books have been written focusing exclusively on its applications. Rod Gerle's book *Possible Worlds* fills this gap. In this very well written book, the author examines applications of possible worlds to philosophy and logic. Somewhat surprisingly, the main thesis is a negative one: the book aims to show that 'possible worlds are not as helpful as we might have thought for a range of issues' [193]. Gerle draws attention to areas in which the concept of possible world has been employed but does not make any substantial contribution. 'Those include: what we mean when we say that something is essentially ϕ ; what we mean by existence; how we refer to and talk about nonexistent entities; and what is going on in fiction' [193].

The book is written for the non-specialist—it is introductory in tone and will particularly benefit philosophers interested in learning something about the topic without demanding a background in formal logic. The formalism required to understand the basic features of modal logic is introduced along the way. Gerle also makes a constant effort to trace back the discussion to its historical source and an annotated bibliography supplements the majority of positions discussed. So graduate students who do not have familiarity with logic but need to know something about possible worlds talk will find the book very helpful.

Another strength of the book is the fact that some advanced issues such as varying domain semantics and free logic are discussed in a very accessible way, while the more technical details are relegated to an appendix at the end of each chapter. It is worth mentioning, however, that *Possible Worlds* is not an introduction to modal logics. (For a very accessible introduction to modal logics the reader is advised to consult Gerle's previous book *Modal Logics and Philosophy*.)

Possible Worlds is a provocative book in the sense that it advances some fairly radical theses. For instance, in Chapter 3 Gerle raises the question of

whether quantifiers in predicate logic should have existential import (that is, whether the domain of quantification should include only existing objects). He is inclined to endorse a non-standard view, which rejects the assumption of existential import for quantifiers. According to this view, quantifiers should be allowed to range over all sorts of nonexistent objects which we ordinarily talk about (including, perhaps, impossible objects!).

The book consists in eleven chapters, most of them concern one area or another in which possible worlds are employed. It begins with an introduction focusing on the relationship between ordinary language and formal logic. This is followed by a chapter introducing the basic features of modal propositional logic with possible worlds semantics. Chapter 3 extends possible worlds semantics to modal predicate logic. It also discusses some interesting philosophical problems arising from the introduction of quantifiers in modal logic. Chapter 4 restates the question of existential import, but now with regard to individual constants. It presents free logic as an interesting alternative in which sense can be made of the idea of individual constants referring to nonexistent entities. Chapter 5 deals with two notions of possibility and necessity found in natural language and examines how these ideas are translated into possible worlds semantics. Chapters 6 and 7 discuss applications of possible worlds semantics to epistemic and doxastic logics, that is, to logics for knowledge and belief. Chapter 8 addresses the question of whether modal logics with possible worlds semantics provide a satisfactory logic for time. Chapter 9 discusses possible worlds in connection with the debate on modal realism. In Chapter 10 the author takes the idea of ‘impossible possible worlds’ seriously [181].

The book aims at showing that possible worlds do not have the explanatory power they are usually taken to have. Let me illustrate this point by focusing on the chapter that discusses the connection between possible worlds semantics and temporal logic.

It is well known that modal logics with possible worlds semantics can be used to provide a logic for time. In particular, we can provide a model for some conceptions of time by interpreting states of the universe at some instant of time in terms of possible worlds. But once we model time in terms of possible worlds semantics, there is a general worry about what this fact amounts to. Does it mean that now we have a better understanding of what time is? For instance, a system of modal logic called *Cocchiarella’s linear time* [147] allows for circular models of time. But in what sense does the fact that we have a *model* for cyclic time provide an *explanation* for cyclic time? The issue here is whether the models in question have explanatory power. And Gilre seems to suggest that they don’t. That is, we do not learn anything new about time by modelling it with possible worlds semantics. In this way, the discussion touches on many interesting issues such as the nature of explanation and the role of models in explanation.

Here is another interesting point for discussion. In examining the kinds

of explanation that benefit from the notion of possible worlds, Girle often assumes a very distinctive conception of possible worlds; he generally talks about them from the perspective of modal logic with possible worlds semantics. For instance, in Chapter 5 he convincingly argues that this semantics fails to capture the senses of possibility and necessity that permeate natural language. The question now is whether this shows that possible worlds are not so useful. After all, one might argue that possible worlds semantics does not capture the full and rich notion of possible worlds (in the everyday sense of ‘ways the world might have been’).

Indeed, this point about the priority of natural language is one Girle is very sympathetic towards. For instance, in many places he raises the question of whether logic should play a descriptive role, showing logical connections between concepts employed in ordinary language or whether it should play a normative role, showing how natural language should behave. The author shows sympathies for the first approach, so one might think that a more ordinary language conception of possible worlds would fare better. But this is not Girle’s line of argument. Although he tells us that ‘[m]odal logic is not the final arbiter when it comes to possible worlds and modality’ [23] and that ‘possible worlds will take us beyond formal systems’ [24], he rarely discusses the use of possible worlds outside the context of modal logic (although Chapter 9 is an exception to this). This suggests that perhaps one should see the book’s main thesis as a more restricted one; for the most part it argues for the limits of applicability of possible worlds semantics and modal logic.

To close this review I return to the problem posed at the beginning: how useful are possible worlds in philosophy and logic? Girle concludes: ‘[s]adly, possible worlds do not solve the problems, but they make some of the problems more accessible’ [193]. But this need not be thought of as a pessimistic conclusion. In philosophy, making problems more accessible is already an important contribution. By pointing out some of the contexts in which possible worlds semantics succeeds or fails to illuminate philosophical problems, the book makes a welcome addition to the literature on possible worlds. I strongly recommend this book to anybody interested in the rich topic of modality.

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REFERENCES

- Lewis, D. 1986 *On the Plurality of Worlds*, Oxford: Blackwell.
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