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*To our parents
Edward L. Keenan, Edith C. Keenan,
Joseph Faltz, Charlotte L. Faltz*

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PREFACE

In the spring of 1978, one of the authors of this book was sitting in on a course in logic for linguists given by the other author. In attempting to present some of Montague's insights in an elementary way (hopefully avoiding the notation which many find difficult at first), the authors began discussions aimed towards the construction of a simple model-theoretical semantic apparatus which could be applied directly to a small English-like language and used to illustrate the methods of formal logical interpretation. In these discussions two points impressed themselves on us. First, our task could be simplified by using boolean algebras and boolean homomorphisms in the models; and second, the boolean approach we were developing had much more widespread relevance to the logical structure of English than we first thought. During the summer and fall of 1978 we continued work on the system, proving the more fundamental theorems (including what we have come to call the Justification Theorem) and outlining the way in which an intensional interpretation scheme could be developed which made use of the boolean approach (which was originally strictly extensional). We presented our findings in a monograph (Keenan and Faltz, 1978) which the UCLA Linguistics Department kindly published as part of their series called Occasional Papers in Linguistics; one of the authors also presented the system at a colloquium held at the Winter Meeting of the Linguistic Society of America in December 1978.

On the basis of encouragement from colleagues as well as our own sense of the value of the boolean semantic approach, the authors decided to publish the system in book form. Originally we had hoped to create a reworked version of the 1978 monograph, improving on matters of exposition and clarity only. As we progressed, however, we found more and more ways to extend and improve the theory, so that the present book is to all intents and purposes an entirely new work. Herein will be found, for example, a way of defining an ontology without the need of a set (the 'domain of discourse' U) whose elements are not directly denotable by expressions in the language; a deeper discussion of determiners; a deeper and more general presentation of the interpretation of modifiers; a more general discussion of the theorems relating to the intensional system; a discussion of case

marking; and, generally, what we hope is a clearer picture of the pervasiveness of boolean structure in the semantics of natural language.

Loose ends remain; however, we have resisted the temptation to delay publication of the book until all the developments and extensions we could possibly conceive of were worked out and included. As it is, we have delayed this book enough; it seemed high time to make available to the scholarly community a complete presentation of the current state of our system, since so much had been developed beyond the versions hitherto available. We hope that this book may be the foundation for further work on and in the boolean semantics framework.

During the time that we have been working on the theory of boolean semantics, we have been fortunate to have had the help and advice of friends and colleagues. It is our pleasure to thank the following people for their contributions, criticisms, and encouragement: Emmon Bach, Filippo Beghelli, Scott Busby, David Gil, William Ladusaw, Susan Mordechay, Larry Moss, Richard Oehrle, Barbara Partee, Stan Peters, Maureen Schmid, and Jonathan Stavi. Our apologies to any persons we may have inadvertently omitted. Our special thanks to Vimal Graham and Cathy Mullins for typing the manuscript, and to the National Science Foundation for funding portions of the work herein under grant BNS 79-14141.

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