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Eduardo Fermé · Sven Ove Hansson

Belief Change

Introduction and Overview

Eduardo Fermé
Faculty of Exact Sciences
and Engineering
University of Madeira
Funchal
Portugal

Sven Ove Hansson
Division of Philosophy
Royal Institute of Technology (KTH)
Stockholm
Sweden

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Preface

Belief change (belief revision) is a research area in formal philosophy that makes use of logic to produce models of how human and artificial agents change their beliefs in response to new information. The properties of these models are investigated in order to improve our understanding of how beliefs can be changed, with a particular emphasis on what it means to change one's beliefs in a rational way. This area of research arose in the 1970s and 1980s through a confluence of several approaches. Its first great synthesis was an article in the *Journal of Symbolic Logic* in 1985 (the so-called AGM paper). In the three decades that have followed since then, the area has developed rapidly and in many directions. This book is an introduction to the subject and at the same time an overview of some of its major ramifications. The model proposed in the 1985 paper will be used as a starting point, but we will also pay much attention to the criticism that has been raised against it and to several alternative models that have been proposed to supplement or replace it. Theorems and other formal results are presented without proofs; instead we give references to the research papers where the proofs can be found.

Belief change has turned out to be an unusually rich research area that provides us with new, dynamic ways to understand human rationality. We hope that the reader will see how full this field of research is of exciting openings for new discoveries.

In preparing the contents of this book we benefited from the help of more than fifty colleagues who answered our queries and provided us with information. In addition to its academic excellence, the belief revision community is a remarkably generous one. Special thanks go to Mauricio Reis, Rafael Testa, Hans van Ditmarsch and Ramón Pino Pérez for their help with Chapters 9, 10, 12 and 13 respectively.

Funchal and Stockholm,
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Eduardo Fermé¹
Sven Ove Hansson

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