

# Preface

The title *The Demons of Science* may at first appear like a contradiction in terms. Demons are associated with the forces of darkness; science represents the power of light. One could assume, therefore, that science has no time for demons. This book aims to destroy this assumption. Science opens its gates to demons as long as they play a rational rather than an evil part. They are put to work. Demons are figures of thought: they belong to the category of thought experiments, which are routinely employed in science and philosophy. As they are cast as agents with superhuman abilities, we may expect that demons provide us with valuable—albeit non-empirical—clues about the constitution of the physical world. But I am interested in exploring not only what the demons tell us but also what they do not tell us about our world. They are cast as superhuman actors but even demons have their limitations. The following chapters contain, I believe, the first systematic study of the role of demons in scientific and philosophical reasoning about the external world.

I have to thank a number of people for helping me along the way: Roger Fellows (Senior Research Fellow at the University of Bradford), Roman Frigg (Professor of Philosophy at the London School of Economics) and Robert Nola (Professor of Philosophy at the University of Auckland) who either read all or part of the manuscript and have given me valuable advice. An invitation to give a talk on the cosmological arrow of time at the Sigma Club of the Department of Philosophy at the London School of Economics (January 2016) has helped me clarify some uncertainties about the powers of Loschmidt's Demon. I thank the members of the audience for a stimulating discussion. I was granted sabbatical leave in the summer of 2015 and I would like to thank the Faculty of Social Sciences at the University of Bradford for granting me the time to finalise the manuscript. I spent the 3 months of the sabbatical at the *Center for Mathematical Philosophy* at the University of Munich. I would like to thank its Director, Stephan Hartmann, for the invitation, the

stimulating atmosphere and the warm welcome. I take this opportunity to thank Angela Lahee, not only for her enthusiasm for the Demons of Science, but also for her unfailing support over the years.

I can confirm that no demons had a hand in writing this book. But I hope that the reader will enjoy reading it as much as I enjoyed writing it.

Friedel Weinert

The Demons of Science

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Weinert, F.

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