

# Preface

The aim of the present book is to understand the relationship between knowledge and society, then describe ways to bring the relevant science to bear on the processes of political decision-making.

For decades during the second half of the twentieth century, science was seen as a positive, indisputable, and powerful driving force for the development of Western society. But this is no longer the case. Many today feel and express a growing skepticism with regard to knowledge and reason, or even reject them altogether. The Enlightenment of the eighteenth century seems to be losing its lustre in the twenty-first. However, reason and knowledge are essential for the wise and responsible management of our planet.

We must counter the sometimes hostile approach to science displayed by some of our contemporaries. With reference to astronomy, the science I know best, the first part of the book shows just how much our society has gained, and continues to gain, culturally, economically, and politically by the development of knowledge. Science is the work of women and men. Their task alternates between routine and the search for harmony. It begins with the birth of an idea and ends with a universally recognized piece of knowledge, in principle accessible to all, and freely available to guide human endeavour.

Scientific practice involves the responsibility of research scientists to make their knowledge genuinely useful to society. The second half of the book illustrates how important it is to gain knowledge of our environment, and hence understand our own influence upon it. It then discusses the responsibilities that fall specifically upon the scientist. The women and men of science can, and indeed must, make their knowledge available to society in a form that can facilitate well informed political decisions. The dialogue between science and politics is not easy, but it has assumed a new and richer structure since the 1990s.

Most political decision-making processes take place on the national level, whereas science knows no frontiers and the planet is a single ecosystem. We must therefore find a way to go beyond this rather parochial way of thinking and establish continental and global institutions that can implement the regional and worldwide projects made essential by human influence on the planet as a whole.

Emotions and beliefs are the irrational components of our decision-making processes. Reason and knowledge must also allow us to take these fundamental features of humanity into account. Today, while human society affects the physical, chemical, and biological parameters of the planet over the whole of its surface, we must use the tools available to us to guarantee harmonious living conditions for all its many and varied inhabitants.

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