

Preface

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In recent years the protection of biodiversity has become subject to numerous national and international academic debates and bio-political regulations. The frequency with which the term biodiversity is used in science, politics and the media could be construed as evidence for the existence of clear scientific, empirical and practical conceptions of its meaning as well as a consensus of its value. Taking a closer look, however, one sees that much remains unclear in respect of a practical understanding of biodiversity and of the criteria and principles that may be employed towards assessing its value and usefulness. 'Biodiversity' may refer to the diversity of genes, of species and of ecosystems in general. These varying concepts of biodiversity occasionally lead to conflicts among researchers and policy makers, as each of them requires a customized type of protection strategy; the strategy to protect a genotype is quite different from that to protect a habitat or an ecosystem, for instance. The term 'protection' itself is, in turn, also contested. In this context, questions arise concerning the merits of the conservation of an existing situation vs. an evolutionary development vs. the intentional substitution of one genome (or species, or ecosystem) for another. Does protection require conserving a particular situation, or does it rather necessitate the promotion of certain developments along the lines of evolution; does it perhaps even require the deliberate substitution of one genome, species or ecosystem by another?

Questions like the abovementioned indicate the close interactions between conceptual questions and questions of value assignment. Any practical steps towards the protection of biodiversity demand a definition of that which is to be protected and, in turn, the motivations for protecting biodiversity. Why should we aim at protecting biodiversity after all? Because particularity or diversity of species, genomes, or ecosystems as such is instrumentally valuable, i.e. valuable in terms of providing us and future generations with new and often yet unknown interesting materials and models relevant for the further development of our practical knowledge? Or do we have reasons to consider biological diversity as intrinsically valuable irrespective of such instrumental – and perhaps even irrespective of any aesthetic – values? Debates on these questions are particularly complex and interested parties address them from different conceptual and moral perspectives. Often the protection of both an ecosystem and a certain species, or the preservation of a certain habitat without hindering its evolutionary processes,

turn out to be incompatible goals. As a result, debates about biodiversity present a variety of dilemmas to their researchers.

Further challenges arise if protection goals conflict with practical interests, such as the traditional and sometimes existential interests of the indigenous populations of a habitat, with the interests of other people living in completely different regions of the world or with the (presumed) interests of future generations. Policies and legislations need to balance these and further interests in an acceptable and fair manner. And since biodiversity issues often range beyond national borders, these aims have to be pursued on an international rather than a mere national level. Without the support by supra- or internationally operating agents and agencies such as the UN, the solution of intertwined and complex legal challenges will not be possible. Questions of ownership, of patent laws, the terms of access and benefit sharing are questions that need to be discussed on an international level if we as the human race want to come up with solutions that have a real chance of implementation and respect.

This anthology addresses the named questions and challenges in a series of articles by researchers working in various disciplines and areas related to biodiversity evaluation, description, policies and a number of particular practical questions. Their articles are complemented by a series of further articles dealing with exemplary problems and with particular challenges agents working in the area find themselves confronted with. Plant endemism, migratory species, the relevance of biodiversity for various practical and theoretical research purposes... these are but a few examples for the more specific problems this anthology deals with.

In line with what has been said so far, this anthology comprises three sections. The first and most comprehensive section addresses the relation of biological concepts and values in the debate about biodiversity, the examples of biodiversity in the context of evolution, substitutability and biodiversity protection, and the economic valuation of ecosystem services. The second section considers questions of legislation and justice, such as international conventions concerning biodiversity, the challenges arising in the context of access and benefit sharing, and the 'biopiracy' debate. The third section presents a number of typical practical problems of biodiversity protection, including incompatible interests of different local groups affected by biodiversity protection policies, and difficulties connected with plant endemism as an indicator of biodiversity.

With this anthology, we want to present an exemplary collection of the different approaches and challenges in today's practice and theory of biodiversity protection. Its articles cover the perspectives of biologists with a particular expertise in evolutionary and environmental biology and systematic zoology, as well as those of philosophers with an expertise in philosophy of science, in ethics and political philosophy; of social scientists, legal experts, and economists with an expertise in ecological economics. These articles continue discussions initiated by an international and interdisciplinary workshop held in March 2011 by the Institute of Science and Ethics (IWE) and the German Reference Centre for Ethics in the Life Sciences (DRZE), which was funded by the German Federal Ministry of Education and Research (BMBF). This workshop was the first to

bring together distinguished experts and junior scientists (doctoral students and postdoctoral researchers) from the United States of America, South Africa and all over Europe. As a combination of articles written by renowned experts and junior scientists, the volume aims at encouraging communication between different scientific areas as well as between diverse groups of researchers. In particular, the book aims at facilitating future interdisciplinary debates by highlighting hitherto unacknowledged implications (both conceptual and qualitative) that inform current academic and political debates on biodiversity and its protection. We very much hope that this anthology will turn out to be relevant for advanced undergraduate and postgraduate students in the fields of environmental studies, applied philosophy and other subject areas as well as for academics, political agents, and an educated general public interested in environmental issues.

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