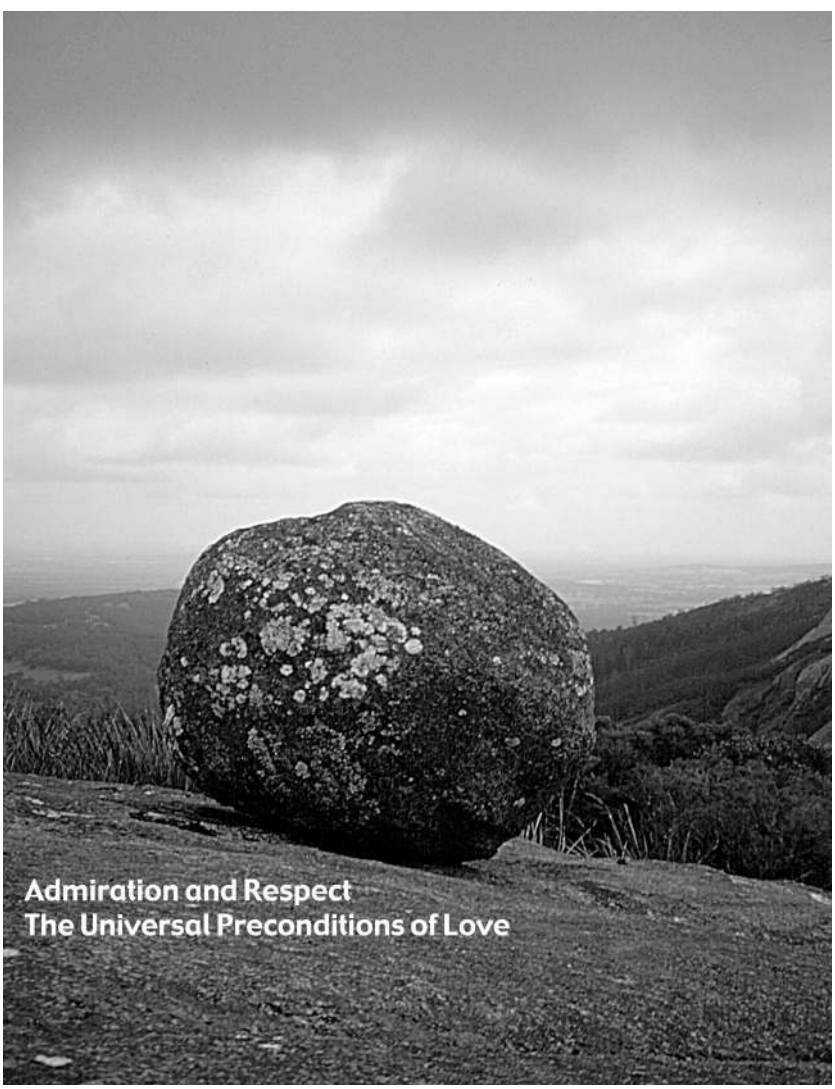
Bioscience Ethics

Bioscience ethics facilitates free and accurate information transfer from applied science to applied bioethics. Its major elements are: increased understanding of biological systems, responsible use of technology, and curtailment of ethnocentric debates more in tune with new scientific insights. Coined by Irina Pollard in 1994, bioscience ethics has become an internationally recognized discipline, interfacing science and bioethics within professional perspectives such as medical, legal, bioengineering and economics. The fundamental feature of this book is its breadth, which is important because bioscience ethics interweaves many diverse subjects in the process of gathering specialist scientific knowledge for bioethical review. It contains chapters which embrace topics affecting human reproduction, end-of-life care and euthanasia, others which challenge human-dominated ecosystems, and review population growth, economic activity and warfare. A background section describes the evolution of ethical consciousness, explores the future and proposes that the reworking of ethical boundaries can enhance mature decision-making in harmony with changing technology.

IRINA POLLARD is an Associate Professor in the Department of Biological Sciences at Macquarie University in Sydney. In the 1990s, she initiated and developed new ways of communicating science described as bioscience ethics. Her research activities have generated a deep concern for social justice and, as a result, she is active in community education and serves on local and international Institutional Ethics Committees. Through UN-affiliated organizations, she is occupied with international bioscience-bioethics education projects via active membership of UNESCO's School of Ethics and, more recently, as the Chair of the Australian Unit of the International Network of the UNESCO Chair in Bioethics. In 2007 she was elected to the Board of Directors of the International Association of Bioethics. She also founded the Bioscience-Bioethics Friendship Co-operative (BBFC) web portal at http://www.bioscience-bioethics.org/ which provides free admittance to educational material in the areas of stress physiology, reproduction, toxicology/teratology and environmental ethics, and access to other useful links for those interested in bioscience and bioethics.



Bioscience Ethics

IRINA POLLARD
Macquarie University, New South Wales, Australia

CAMBRIDGE UNIVERSITY PRESS

Shaftesbury Road, Cambridge CB2 8EA, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi – 110025, India

103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of Cambridge University Press & Assessment, a department of the University of Cambridge.

We share the University's mission to contribute to society through the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/9780521745277

First published 2009

A catalogue record for this publication is available from the British Library

Library of Congress Cataloging-in-Publication data
Pollard, Irina.
Bioscience ethics / Irina Pollard.
p. cm.
Includes bibliographical references and index.
ISBN 978-0-521-76828-3 (hardback)
1. Medical ethics. 2. Bioethics. I. Title.
R724.P64 2009
174′.957–dc22 2009007322

ISBN 978-0-521-76828-3 Hardback
ISBN 978-0-521-74527-7 Paperback

Contents

Preface

The ethical dimension of science is significant because all of us will need to participate, as citizens, in making informed choices about its uses and abuses. Biological education, while consistent with new knowledge, ought also to be relevant to real-life experiences within sociocultural and ethical contexts. The indiscriminate use, abuse and misunderstanding of science's valuable technological developments are, beyond doubt, a matter of ethical concern and collective responsibility. To adequately respond to the challenges that our technological-based predicaments have created, a deeper understanding of biological systems is essential. To this end, the new transdisciplinary field dubbed 'bioscience ethics' provides unique opportunities for advancing biological understanding within the scaffolding of ethics. Without free and accurate access to scientific, medical and technological expertise – factors which drive present-day social change – the search for a bioethics in tune with modern reality is severely disadvantaged. Bioscience ethics provides a source of information that bridges the gap between applied science and applied ethics. The concept does not displace bioethics; rather it aims to assist its growth. As the interface between scientific endeavour and its application into acceptable forms of bioethical consensus, bioscience ethics demands increased understanding of biological systems, the responsible use of technology and curtailment of ethnocentric debate in tune with scientific insight. The fundamental feature of this book is its breadth – by integrating ethics with the life sciences and by emphasizing that the human condition is the product of past and present circumstance, it highlights the ethics that emerging scientific insights may involve. Publications such as my introductory text, *Life, Love and Children: A Practical Introduction to Bioscience Ethics and Bioethics* (developed for open-access educational purposes), have generated growing interest in bioscience ethics by students and academics as well as the general public. This book responds to the growing interest by adaptively integrating traditional

reductionist insights within broader cross-disciplinary levels of bioethical significance. My hope is that, with deepened biological understanding, new standards of social conduct, more in cooperation and harmony with the environment and ourselves, will evolve.

IRINA POLLARD

Acknowledgements

Any enterprise of breadth rests heavily on the scholarship of others. Therefore, I would like to thank all authors from the extensive published literature whose material I have freely used but, owing to space constraints, only a selection is provided in the Further reading. Predominantly I owe a debt to my partner Roger Hiller who critically read all my drafts, insisted on clarity of expression, and who generously gave expert guidance throughout the book's development. It's been instructive to see how Roger's well-judged assessments resulted in important content/textual modifications which so effectively highlighted the intended essence of my writing. I'm also considerably indebted to my son Morgan Pollard for engaging me in probing discussions, especially in the environmental sections. I also extend my thanks to numerous friends and colleagues who helped me focus my thoughts throughout the laborious writing process, and to the students who gave enthusiastically of themselves during their reading of the subject as taught at Macquarie University. I especially owe a debt to bioscience ethics students and staff who strongly supported my fledgling subject, initially taught as an introductory vacation unit, and insisted that bioscience ethics needs to be expanded and recognized in any science curriculum. I also want to acknowledge friends, of like mind, who in the course of various collaborative educational projects within UNESCO's School of Ethics and elsewhere, provided valuable opportunities to stretch my interests in bioscience ethics. In this regard I particularly want to thank Darryl Macer for being an excellent friend and invaluable colleague. To all, I extend a warm thank you.

The original scientific illustrations are an integral part of the book's text and for these I owe a special thanks to the scientific illustrator and artist Barbara Duckworth who, without fail, was able to create meaningful illustrations from my roughest sketches. I'm also very grateful to Ray Duell for skillfully generating eloquent electronic diagrams based on my amateur drafts and for

his ongoing assistance in computing matters essential in the preparation of this volume. Ray's IT expertise is astounding, as can be demonstrated by inspecting our web-based education portal, freely accessible at http://www.bioscience-bioethics.org/.

Finally, I want to acknowledge my two editors at Cambridge University Press – Alan Crowden and Dominic Lewis – for enthusiastically embracing bioscience ethics and assisting in its promotion. Thanks are also due to all at Cambridge University Press who helped to bring this book to fruition. For me the journey has been both challenging and enlightening.