## THE DILEMMAS OF

## MAX PLANCK AND THE FORTUNES OF GERMAN SCIENCE

WITH A NEW AFTERWORD

## J. L. HEILBRON

HARVARD UNIVERSITY PRESS CAMBRIDGE, MASSACHUSETTS LONDON, ENGLAND

12/57 a Otto-dahn-Bibliothek fur biophysikalische Chem 2001/020

Copyright © 1996 by the Regents of the University of California Afterword copyright © 2000 by the President and Fellows of Harvard College All rights reserved Printed in the United States of America

First Harvard University Press paperback edition, 2000

Library of Congress Cataloging-in-Publication Data Heilbron, J. L. The dilemmas of an upright man : Max Planck and the fortunes of German science / J.L. Heilbron. **D**. cm. Originally published: Berkeley : University of California Press, c1986. With new afterword. Includes bibliographical references and index. ISBN 0-674-00439-6 1. Planck, Max, 1858-1947. 2. Physics-Germany-History. 3. Physicists-Germany-Biography. I. Title. QC16P6 H45 2000 530'2.092-dc21 [B] 00-040745

## CONTENTS

PREFACE	vii
ABBREVIATIONS	xi
1 • Establishing the World Picture	1
PLANCK'S FORMULA	5
RELUCTANT ATOMIST	9
ENTHUSIASTIC RELATIVIST	28
CONCERNED PEDAGOGUE	32
2 • Defending the World Picture	47
AGAINST MACH	47
IN THE ACADEMY	60
IN THE WAR	69
AGAINST FATE	81
3 • Doctor of Science	87
OF THE BODY	88
INTERNATIONAL RELATIONS	100
ANTI-ANTIRELATIVITY	114
OF THE SOUL	122
4 • In Shipwreck	149
AS CAPTAIN	155
AS CHAPLAIN	179
AS SALVAGER	192
BY THEIR FRUITS YE SHALL KNOW THEM	199
AFTERWORD, 2000	205
BIBLIOGRAPHY	221
INDEX	243