

Phillip H. Roth

Medicine as Science

**The Making of Disciplinary Identity
from Scientific Medicine to Biomedicine**



Nomos

edition
sigma



Wissenschaft und Technik stellen zentrale, aber paradoxe Antriebskräfte gesellschaftlicher Veränderung dar. Gesellschaften sind elementar auf diese angewiesen, ihr Beitrag ist zugleich oft umstritten. Die Reihe Wissenschafts- und Technikforschung eröffnet ein Forum, um diese Entwicklungen insbesondere aus der Perspektive von Soziologie, Philosophie, Sozialanthropologie und Geschichtswissenschaft auszuleuchten, und bietet wissenschaftliches Grundlagen- wie wissenspolitisches Orientierungswissen.

Schriftenreihe
„Wissenschafts- und Technikforschung“
NEUE FOLGE

herausgegeben von

Prof. Dr. Stefan Böschen, RWTH Aachen

Prof. Dr. Gabriele Gramelsberger, RWTH Aachen

Prof. Dr. Jörg Niewöhner, HU Berlin

Prof. Dr. Heike Weber, TU Berlin

Bis einschließlich Band 18 herausgegeben von:

Prof. Dr. Alfons Bora, Universität Bielefeld

Prof. Dr. Sabine Maasen, TU München

Prof. Dr. Carsten Reinhardt, Universität Bielefeld

PD Dr. Peter Wehling, Universität Frankfurt am Main

Band 22

Phillip H. Roth

Medicine as Science

The Making of Disciplinary Identity
from Scientific Medicine to Biomedicine



Nomos

edition
sigma



The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at <http://dnb.d-nb.de>

a.t.: Bonn, Univ., Diss., 2021

ISBN 978-3-8487-8750-0 (Print)
978-3-7489-3188-1 (ePDF)

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library.

ISBN 978-3-8487-8750-0 (Print)
978-3-7489-3188-1 (ePDF)

Library of Congress Cataloging-in-Publication Data

Roth, Phillip H.

Medicine as Science

The Making of Disciplinary Identity from Scientific Medicine to Biomedicine

Phillip H. Roth

226 pp.

Includes bibliographic references.

ISBN 978-3-8487-8750-0 (Print)
978-3-7489-3188-1 (ePDF)

1st Edition 2022

© Phillip H. Roth

Published by

Nomos Verlagsgesellschaft mbH & Co. KG

Waldseestraße 3–5 | 76530 Baden-Baden

www.nomos.de

Production of the printed version:

Nomos Verlagsgesellschaft mbH & Co. KG

Waldseestraße 3–5 | 76530 Baden-Baden

ISBN 978-3-8487-8750-0 (Print)

ISBN 978-3-7489-3188-1 (ePDF)

DOI <https://doi.org/10.5771/9783748931881>



Onlineversion
Nomos eLibrary



This work is licensed under the Creative Commons Attribution 4.0 International License.

In memory of Reuben E. DeLoach
(1941–2016)

Table of Contents

List of Abbreviations	11
Acknowledgements	12
1. Introduction: Science and Medicine – Two Cultures Lost in Translation?	15
I. Towards a Historical Sociology of Medicine’s Disciplinary Identity	20
II. The Forgotten Disciplinary Identity of Medicine	27
III. Historical Semantics and Discourse Analysis – Theoretical Approach and Method	33
2. For a Sociology of Disciplinary Cultures	43
I. Academic Knowledge and the Social Structure of Science	47
II. From the Culture of Science to Cultures of Research	50
III. The Emergence of Disciplinary Cultures in the Modern Research University	53
IV. Academic Tribes and Disciplinary Territories	56
V. Disciplines as Political Institutions	58
VI. Disciplinary Boundary and Identity Work	62
3. The Birth of a Modern Discipline – Medicine as <i>Wissenschaft</i> in German Romanticism	66
I. Medicine Between Art and Learnedness – The Conceptual Background	71
II. The Institutional Environment in Prussia’s Capital	75
III. Johann Christian Reil’s Plan for Reforming Academic Medicine	81
IV. A Modern Division of Medical Labor	86

Table of Contents

V. The New Physiology as Modern Medicine's Scientific Culture	89
VI. The Function of Medicine as a Modern Academic Discipline	98
4. An Applied Science Between Laboratory and Clinic – Scientific Medicine in Mid-Nineteenth-Century Germany	102
I. Medicine as an Exact Science – The Physiological Program	106
II. The Ideology of Methodology in Mid-Nineteenth-Century Germany	114
III. Rudolf Virchow's Program of Scientific Medicine	118
a. The Science of Pathology	121
b. A Science of Therapy	127
5. The Laboratory and the Making of Clinical Science during the Progressive Era – Scientific Medicine in the USA	135
I. German Ideals of Academic Medicine in the American Discourse	140
II. From Applied Science to the Pure Science of Clinical Medicine	147
III. Institutional Ambiguities of Medical and Biological Research	154
6. Constructing the Identity of a Late Modern Discipline – Biomedical Science and the Life Sciences in the Post-War United States	160
I. The Birth of the Administrative Shorthand "Biomedical"	164
II. From "Allied" to "Underlying" Sciences	167
III. The Political Boundary Between Biomedical Science and the Life Sciences	173
IV. The Linear Legacy of Biomedicine	180
7. Averting Conceptual Crisis – Semantic Stabilization of a Disciplinary Identity in the Twenty-First Century	184
I. Evidence-Based Medicine and the New Cultural Foundation of Clinical Practice	191
II. Shifting the Basis of Clinical Medicine Through Guidelines	194

III. Confirming the Linear Legacy with Translational Science	196
IV. The Character of Translation Practices	198
8. Conclusion – Biomedicine as Discipline and Integrational Category	204
Bibliography	213

List of Abbreviations

AEC	United States Atomic Energy Commission
APS	American Physiological Society
EBM	Evidence-Based Medicine
NASA	National Aeronautics and Space Administration
NIH	Institutes of Health (United States)
NSF	National Science Foundation (United States)
OSRD	Office of Scientific Research and Development (United States)
SSK	(The) Sociology of Scientific Knowledge
STS	Science and Technology Studies
TR	Translational Research
R&D	Research & Development
RCT	Randomized Controlled (Clinical) Trial