

MODERN LOGIC

International Journal for the History of Mathematical Logic,
Set Theory, and Foundations of Mathematics

Vol. 5, no. 2

(April 1995)

*Mathematical logic...is the modern form of logic developed in
the last hundred years.* – Rudolf Carnap (1954)



Modern Logic Publishing, Ames, Iowa, USA

ISSN 1047-5982

MODERN LOGIC

International Journal of the History of Mathematical Logic,
Set Theory, and Foundations of Mathematics

EDITORIAL BOARD

EDITOR: Irving H. ANELLIS (Modern Logic Publishing, 2408¹/₂ Lincoln Way (Upper Level), Ames, IA 50014-7217, USA; email: fl.mlp@ISUMVS.bitnet; fl.mlp@ISUMVS.IASTATE.EDU; America Online: ModernLog@aol.com) (English, Russian / General Logic and Foundations, Proof Theory, 20.-cent., Logic in the USSR; 03Bxx, 03Fxx)

Co-editor: Thomas L. DRUCKER (Modern Logic Publishing, 304 South Hanover Street, Carlisle, PA 17013-3938, USA; fax: 717-258-0515) (English, French / Categorical Logic, Model Theory and Nonstandard Models; 03G30, 18B25, 03Cxx, 03Hxx)

ASSOCIATE EDITORS:

Francine F. ABELES (Department of Mathematics and Computer Science, Kean College SCNJ, Union, N.J. 07083, USA; email: fabeles@uau.kean.edu) (Reviews Editor)

Alexei G. BARABASHEV (Department of Philosophy and Methodology of Science, Room 451, Humanities Bldg. No. 1, Center for Social Sciences and Humanitarian Studies, Moscow University, Moscow, 119899 Russia; email: alexei@bar.srcc.msu.su; fax: 7 (095) 939-5338) (Russian, English / Sociology, Pedagogy, Methodology and Philosophy of Logic, Philosophy of History of Foundations of Mathematics, Future Prospectives; 00A25, 01A67, 01A80, 03A05, 98-03)

Valentine A. BAZHANOV (Office of the Dean, School of Humanities, Ulyanovsk Branch of Moscow University, L. Tolstoy street 42, Ulyanovsk, 432700, Russia; email: bazhan@hum.univ.simbirsk.su) (Russian, English / Paraconsistent Logics, Modal Logics, Multiple-valued Logics, 19-20. century Logic in Russia & USSR; 03B45, 03B50)

Leon HARKLEROAD (1111 Hector Street, Ithaca, N.Y. 14850, USA; email: leon@math.cornell.edu) (English, French, German, Hungarian / Recursion Theory, Fuzzy Sets; 03Dxx, 03E72, 04A72)

Sangmun KIM (Department of Mathematics, Yonsei University, Seoul, 120-749, Korea; email: sangmunk@bubble.yonsei.ac.kr) (English, German / Logic and History of Logic in Asia; 01A25, 01A27, 01A29)

Roman MURAWSKI (Instytut Matematyki, UAM, ul. Matejki 48/49, PL-60-769 Poznań, Poland; email: rmur@plpuam11.bitnet) (Polish, Russian, German, English, French / 19-20. century Logic in Poland, Hilbert's Program, Metamathematics, and Theories of Arithmetic, First- and Second-order Arithmetic and Fragments, Nonstandard Models of Peano Arithmetic; 03C62, 03F30, 03F35, 03H15)

Volker PECKHAUS (Institut für Philosophie der Universität Erlangen-Nürnberg, Bismarckstraße 1, D-91054 Erlangen, Germany; email: vrpeckha@phil.uni-erlangen.de) (German, English / Algebraic Logic; 03Gxx)

Gellius N. POVAROV (Department of Cybernetics, Engineering Physics Institute, Kashirskoe Shosse, Bldg. 31, Moscow University, Moscow, 115409, Russia; fax: 7 (095) 324-2111) (Russian, English, German, French, Spanish, Italian, Portuguese, Dutch, Hungarian / Programming Logic, Relay Circuits, Finite Automata; 03B70, 068N17, 68Qxx, 94C10)

Wim RUITENBURG (Department of Mathematics, Statistics & Computer Science, Marquette University, Milwaukee, WI 53233-2189, USA; email: wimr@marque.mscs.mu.edu) (English, Dutch, German, French / Constructive Logic and Mathematics, Intuitionism, Topos Theory, Constructive Algebra; 03F50, 03F55, 03F65; 03G30)

John C. SIMMS (Department of Mathematics, Statistics & Computer Science, Marquette University, Milwaukee, WI 53233-2189, USA; email: johns@marque.mscs.mu.edu) (English, German, French / Set Theory; 03Exx, 04-xx)

ADVISORY BOARD: Evandro AGAZZI (*ex officio*), Boris V. BIRYUKOV, Nathan HOUSER, Christian THIEL

MODERN LOGIC

International Journal of the History of Mathematical Logic,
Set Theory, and Foundations of Mathematics

Subscriptions. Requests for information concerning subscriptions should be sent to: Order & Subscription Department, Modern Logic Publishing, 2408 $\frac{1}{2}$ Lincoln Way (Upper Level), Ames, IA 50014-7217, USA. Individuals residing in the countries which do not have convertible currency may inquire about Barter Exchange Subscriptions. Institutional subscribers may contact their journals subscription service. Subscriptions (current rates, *valid until 1 September, 1995*): Individuals – US\$36 per volume (add US\$20 per volume for air mail delivery outside the United States); Libraries/institutions: US\$100 per volume.

Published by Modern Logic Publishing, Dr. Irving H. Anellis, Editor & Publisher; Henry Kormin, Executive Administrator: 2408 $\frac{1}{2}$ Lincoln Way (Upper Level), Ames, IA 50014-7217, USA.

© Modern Logic Publishing, 1995

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system without the express permission in writing of the publisher.

vol. 5, no. 2
(April 1995)

ISSN 1047-5982

MODERN LOGIC

International Journal of the History of Mathematical Logic, Set Theory,
and Foundations of Mathematics

Revue International d'Histoire de Logique Mathématique, Théorie des
Ensembles et des Fondements des Mathématiques

Internationale Zeitschrift für Geschichte der mathematischen Logik,
Mengenlehre und Grundlagen der Mathematik

Международный Журнал по Истории Математической Логики,
Теории Множеств и Оснований Математики

Rivista Internazionale di Storia della Logica Matematica, Teoria degli
Insiemi e Fondamenti di Matematica

Revista internacional de historia de la lógica matemática, teoría de
conjuntos y fundamentos de las matemáticas

Volume 5, no. 2
(April 1995)

Modern Logic Publishing
(SAN 298-1777)

Irving H. Anellis, Publisher; Henry Kormin, Executive Administrator
2408 1/2 Lincoln Way (Upper Level)
Ames, Iowa 50014-7217, USA
☎ tel.: 515 / 292-1819

email: F1.MLP@ISUMVS.IASTATE.EDU (internet)
F1.MLP@ISUMVS (bitnet) ; ModernLog@aol.com (America OnLine)

Printed by Sigler Printing & Publishing
413 Northwestern Avenue, Ames, IA 50010-0887, USA
Typesetting by the Department of Mathematics, Statistics and Computer
Science of Marquette University

MLP PUBLICATIONS

HISTORY OF LOGIC NEWSLETTER
(ISSN 1069-2878)

Published bimonthly (6 times per year)
US\$ 15 per year (+ US\$6 for air delivery outside the U.S.)

*Studies in the
Nineteenth-century History of Algebraic Logic and Universal Algebra:
A Secondary Bibliography*

MODERN LOGIC, Volume 5, no. 1 (January 1995)

is now also available as a convenient wordprocessor file in electronic
format

as

*Studies in the
Nineteenth-century History of Algebraic Logic and Universal Algebra:
An Electronic Secondary Bibliography*

When ordering, please specify whether diskettes should be formatted for
Macintosh or PC platforms, whether diskettes should be 5.25 or 3.5,
doublesided double density or high density. The file can be formatted for
most major DOS or Macintosh wordprocessing applications

Single-user: \$15 + \$1.50 shipping & handling.

Multiple-user site license: \$30 + \$1.50 shipping & handling.

VISA and MasterCard accepted.

Direct all orders to:

Order & Subscription Department
Modern Logic Publishing
2408¹/₂ Lincoln Way (Upper Level)
Ames, IA 50014-7217, USA

☎ tel.: 515 / 292-1819

✉ email: F1.MLP@ISUMVS.IASTATE.EDU ; ModernLog@aol.com

Contents of

MODERN LOGIC

International Journal for the History of Mathematical Logic,
Set Theory, and Foundations of Mathematics

Vol. 5, no. 2
(April 1995)

Benjamin S. HAWKINS, Jr.,
De Morgan, Victorian Syllogistic and
Relational Logic

Volker PECKHAUS, *DISCUSSION*: Rüstow's Thesis on Russell's Paradox

Reviews by

Gregory RESTALL, Allan J. ROSSMAN, Jan WOLEŃSKI, Robert C. REED,
Roman MURAWSKI, and Irving H. ANELLIS



Modern Logic Publishing, Ames, Iowa, USA