THE JOURNAL OF SYMBOLIC LOGIC

EDITED BY

ALONZO CHURCH HARTLEY ROGERS, JR. ARTHUR N. PRIOR
ALICE A. LAZEROWITZ AZRIEL LÉVY
GERALD E. SACKS BURTON S. DREBEN
Managing Editor: ALFONS BORGERS

Consulting Editors:

ALAN ROSS ANDERSON
C. A. BAYLIS
JONATHAN F. BENNETT
PAUL BERNAYS
MARTIN DAVIS
FREDERIC B. FITCH
G. HASENJAEGER
HANS HERMES
E. J. LEMMON
RICHARD MONTAGUE
ANDRZEJ MOSTOWSKI
GERT H. MÜLLER
F. C. OGLESBY
RÓZSA PÉTER
ABRAHAM ROBINSON
GENE F. ROSE
BARKLEY ROSSER
H. ARNOLD SCHMIDT
KURT SCHÜTTE
DANA SCOTT
J. F. THOMSON
A. R. TURQUETTE

VOLUME 32 NUMBERS 1–2
1967

PUBLISHED QUARTERLY BY THE ASSOCIATION FOR SYMBOLIC LOGIC, INC. WITH SUPPORT FROM THE U.S. NATIONAL SCIENCE FOUNDATION, FROM UNESCO THROUGH ICSU AND FROM INSTITUTIONAL AND CORPORATE MEMBERS

Copyright © 1967 by the Association for Symbolic Logic, Inc.
Reproduction by photostat, photo-print, microfilm, or like process by permission only.

https://doi.org/10.1017/S0022481200113799 Published online by Cambridge University Press

THE JOURNAL OF SYMBOLIC LOGIC

EDITED BY

ALONZO CHURCH HARTLEY ROGERS, JR. ARTHUR N. PRIOR
ALICE A. LAZEROWITZ AZRIEL LÉVY
GERALD E. SACKS BURTON S. DREBEN
Managing Editor: ALFONS BORGERS

Consulting Editors:

ALAN ROSS ANDERSON
C. A. BAYLIS
JONATHAN F. BENNETT
PAUL BERNAYS
MARTIN DAVIS
FREDERIC B. FITCH
G. HASENJAEGER
HANS HERMES
E. J. LEMMON
RICHARD MONTAGUE
ANDRZEJ MOSTOWSKI
GERT H. MÜLLER
F. C. OGLESBY
RÓZSA PÉTER
ABRAHAM ROBINSON
GENE F. ROSE
BARKLEY ROSSER
H. ARNOLD SCHMIDT
KURT SCHÜTTE
DANA SCOTT
J. F. THOMSON
A. R. TURQUETTE

VOLUME 32
1967

PUBLISHED QUARTERLY BY THE ASSOCIATION FOR SYMBOLIC LOGIC, INC. WITH SUPPORT FROM THE U.S. NATIONAL SCIENCE FOUNDATION, FROM UNESCO THROUGH ICSU AND FROM INSTITUTIONAL AND CORPORATE MEMBERS

https://doi.org/10.1017/S0022481200113799 Published online by Cambridge University Press

The four numbers of Volume 32 were issued at the following dates:

Number 1, pages 1–144, June 19, 1967.

Number 2, pages 145–288, August 3, 1967.

Number 3, pages 289–446, October 9, 1967.

Number 4, pages 447–648, February 1968

All numbers of this volume are copyrighted by the Association for Symbolic Logic, Inc. Reproduction of copyrighted numbers of the Journal by photostat, photo-print, microfilm, or like process is forbidden, except by written permission, to be obtained through the Business Office of the Association for Symbolic Logic, P.O. Box 6248, Providence, Rhode Island 02904, U.S.A.

The paper used in this reprint is acid-free and falls within the guidelines established to ensure permanence and durability. ♾

10 9 8 7 6 5 4 3 95 94 93 92 91 90

https://doi.org/10.1017/S0022481200113799 Published online by Cambridge University Press

CONTENTS FOR VOLUME 32

Intensional models for first degree formulas. By NUEL D. BELNAP, JR. . . 1
Ultraproducts which are not saturated. By H. JEROME KEISLER 23
Ultraproducts of finite sets. By H. JEROME KEISLER 47
Note on a system of Åqvist. By M. J. CRESSWELL 58
Omitting types of prenex formulas. By C. C. CHANG 61
A Gentzen-type calculus of sequents for single-operator propositional logic. By JOHN RISER 75
A note on existential instantiation. By DAG PRAWITZ 81
Connexive class logic. By STORRS MCCALL 83
Binary connectives functionally complete by themselves in S5 modal logic. By GERALD J. MASSEY 91
A complete and consistent modal set theory. By FREDERIC B. FITCH . . . 93
Reviews 104
Notice of the new periodical *The Journal of Value Inquiry* 143
Notice of a meeting of the Association for Symbolic Logic 143
Interpretations of set theory and ordinal number theory. By MARIKO YASUGI 145
Simplicity of recursively enumerable sets. By ROBERT W. ROBINSON . . . 162
Recursion, metarecursion, and inclusion. By JAMES C. OWINGS, JR. 173
Some theorems on extensions of arithmetic. By ROBERT A. CI PAOLA . . . 180
On n-valued functionally complete truth functions. By R. L. GRAHAM . . . 190
Proof of the law of infinite conjunction using the perfect disjunctive normal form. By JAMES THOMSON 196
Intensional interpretation of functionals of finite type I. By W. W. TAIT . . 198
Strong reduction and normal form in combinatory logic. By BRUCE LERCHER 213
Axioms for strong reduction in combinatory logic. By ROGER HINDLEY . . 224
The decidability of Hindley's axioms for strong reduction. By BRUCE LERCHER 237
Reviews 240
Notice of a meeting of the Association for Symbolic Logic 288
Notice on reprinting material from this JOURNAL 288
On the axiomatizability of uniform spaces. By RALPH KOPPERMAN 289
The $L_{\omega_1\omega_1}$ theory of Hilbert spaces. By RALPH KOPPERMAN 295
Remarks on an infinitary language with constructive formulas. By E. G. K. LOPEZ-ESCOBAR 305
On a set theory of Bernays. By LESLIE H. THARP 319
There exist two regressive sets whose intersection is not regressive. By K. I. APPEL 322
An introduction to hyperarithmetical functions. By JULIA ROBINSON . . . 325
Correction to a paper on definability of ordinals in infinite logic. By AKIKO KINO 343
All or none: a novel choice of primitives for elementary logic. By R. H. THOMASON and H. LEBLANC 345

https://doi.org/10.1017/S0022481200113799 Published online by Cambridge University Press

CONTENTS FOR VOLUME 32

A note on finite axiomatization of partial propositional calculi. By W. E. SINGLETARY 352
Basic modal logic. By JOHN L. POLLOCK 355
A proof of Zermelo's theorem. By VLADIMIR DEVIDÉ 366
Nonaxiomatizability results for infinitary systems. By CAROL KARP 367
Reviews 385
Notice of the journal *The Philosopher's Index* 429
Meeting of the Association for Symbolic Logic. By J. A. ROBINSON and N. M. MARTIN 430
Abstracts of papers 430
An infinitistic rule of proof. By H. B. ENDERTON 447
$\aleph_0$-complete cardinals and transcendency of cardinals. By KANJI NAMBA . . 452
Axiomatizability by a schema. By ROBERT L. VAUGHT 473
A system of implicit quantification. By J. JAY ZEMAN 480
A reduction of the recursion scheme. By M. D. GLADSTONE 505
Reviews 509
Meeting of the Association for Symbolic Logic. By H. A. SCHMIDT, K. SCHÜTTE and E.-J. THIELE 556
Abstracts of papers 556
Notice of a meeting of the Association for Symbolic Logic 573
Notice on fellowship and research opportunities in mathematics 573
Meeting of the Association for Symbolic Logic. By M. J. CRESSWELL . . . 574
Abstracts of papers 574
List of officers and members of the Association for Symbolic Logic 578
Index of reviews 610
Transliteration of Cyrillic letters 648
Errata 649

https://doi.org/10.1017/S0022481200113799 Published online by Cambridge University Press