NOTRE DAME JOURNAL OF FORMAL LOGIC

VOLUME XI, NUMBER 3 JULY 1970



PUBLISHED QUARTERLY BY THE UNIVERSITY OF NOTRE DAME, NOTRE DAME, INDIANA

NOTRE DAME JOURNAL OF FORMAL LOGIC

Bolesław Sobociński, Editor

Managing Editor: John Thomas Canty Business Manager: Ann W. Lauer

Editorial Board

Ignacio Angelelli	Robert Bull	Marian B. Pour-El
F. Gonzalez Asenjo	George Goe	Luis Elpidio Sanchis
Nuel D. Belnap, Jr.	Hugues Leblanc	Wilson E. Singletary
Ivan Boh	Gerald Massey	Vito F. Sinisi
William W. Boone	Elliott Mendelson	Ivo Thomas
Karel L. de Bouvère		J. Jay Zeman

Volume XI, Number 3, July 1970

CONTENTS

Expressibility in type theory. By H. Julian Wadleigh	257
Non-existence does not exist. By R. Routley	289
A logical calculus of analogy involving functions of order 2. By Douglas C. Dorrough	321
A note on a lemma of J. W. Addison. By <i>Richard L. Poss.</i>	337
Binary closure-algebraic operations that are functionally complete. By <i>Gerald J. Massey</i>	340
Note on G. J. Massey's closure-algebraic operation. By <i>Bolesław Sobociński</i>	343
Certain extensions of modal system S4. By <i>Bolesław Sobociński</i>	347
Ein nichtkonstruktiver Beweis des ersten ε-Theorems. By Wilhelm K. Essler	369
On a problem of Th. Skolem. By John H. Harris	372
Locating vertices of trees. By Martin M. Zuckerman	375
The completeness of Copi's system of natural deduction. By John A. Winnie	379
Note on Zeman's modal system S4.04. By Bolesław Sobociński.	383

Notre Dame Journal of Formal Logic is published quarterly by the University of Notre Dame in January, April, July and October of each year. The Journal is composed by Beljan, Ann Arbor, Michigan and printed by Cushing-Malloy, Inc., Ann Arbor, Michigan. Second-class postage paid at Notre Dame, Indiana 46556.

Authors should consult the "Guide to authors" for editorial information. Articles and editorial correspondence should be sent to B. Sobociński, Editor, P.O. Box 28, Notre Dame, Indiana 46556, U.S.A.

Subscriptions are \$8.00 per year (\$8.50 foreign). Back volumes of the Journal may be ordered at regular subscription prices. Offprints of individual articles published after 1969 are available at approximately \$0.03 per page (minimum order \$1.00). When ordering offprints, state article and number of copies desired. Orders for subscriptions, back volumes, offprints, and changes of address should be sent to the Business Manager, P.O. Box 5, Notre Dame, Indiana 46556, U.S.A.

Copyright ©1970 by the University of Notre Dame. All rights reserved.