# NOTRE DAME JOURNAL OF FORMAL LOGIC

VOLUME XIV, NUMBER 3 JULY 1973



### 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

Editorial Board

Ignacio Angelelli F. Gonzalez Asenjo Nuel D. Belnap, Jr. Ivan Boh William W. Boone Karel L. de Bouvère

Robert Bull
George Goe
Hugues Leblanc
Gerald Massey
Elliott Mendelson

Dahamt Dull

Business Manager: Ann W. Lauer

Marian B. Pour-El Luis Elpidio Sanchis Wilson E. Singletary Vito F. Sinisi Ivo Thomas J. Jay Zeman

#### Volume XIV, Number 3, July 1973

#### CONTENTS

The theory of consequence in the late fifteenth and early sixteenth centuries.

By E. J. Ashworth	289
Secondary extensions, meanings and non-null terms. By James F. Harris, Jr.	316
The completeness of combinatory logic with discriminators. By John T. Kearns.	323
Degrees of isolic theories. By Erik Ellentuck	331
A deduction theorem for restricted generality. By M. W. Bunder	341
Sentential calculus for logical falsehoods. By Charles G. Morgan.	347
Combinatorial systems with axiom. By C. E. Hughes and W. E. Singletary	354
A simple algebra of first order logic. By Charles C. Pinter	361
What Russell learned from Peano. By H. C. Kennedy	367
On generating the finitely satisfiable formulas.	
By Arthur M. Bullock and Hubert H. Schneider	373
Incompleteness theorem via weak definability of truth: A short proof.	
By Giorgio Germano	377
The form of Reductio ad Absurdum. By J. M. Lee	381
Modality and preference relation. By Setsuo Saito	387
Concerning the proper axiom for S4.04 and some related systems.	
By R. I. Goldblatt	392
A formal characterization of ordinal numbers. By Nicholas J. De Lillo	397
Necessity and some non-modal propositional calculi. By Biswambhar Pahi	401
On compactness in many-valued logic. I. By Peter W. Woodruff	405
Extensions of Gödel's completeness theorem and the Löwenheim-Skolem	
theorem. By Stephen L. Bloom	408
A stronger definition of a recursively infinite set. By Charles H. Applebaum	411
A new axiomatization of modal system K1.2. By Bolesław Sobociński	413
Modal system S3 and the proper axioms of S4.02 and S4.04.	
By Bolesław Sobociński	415
Note about the Boolean parts of the extended Boolean algebras.	
By Bolesław Sobociński	419
Further extensions of S3*. By <i>lvo Thomas</i>	423
Two sets of perfect syllogisms. By Anne Lehmann.	425
An elementary completeness proof for a system of natural deduction.	120
By David W. Bennett	430
	-00

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 \$16.00 per year for institutions and \$10.00 for individuals. Back volumes of the Journal may be ordered at the applicable subscription prices. Orders for subscriptions and back volumes (accompanied by payment), and changes of address should be sent to the *Business Manager*, *P.O. Box 5*, *Notre Dame*, *Indiana 46556*, U.S.A.

Copyright ©1973 by the University of Notre Dame. All rights reserved.