## THE

# JOURNAL

## OF

# SYMBOLIC LOGIC

#### EDITED BY

Alonzo Church Burton S. Dreben Azriel Lévy Anil Nerode DAGFINN FØLLESDAL GERALD E. SACKS

Managing Editor: ALFONS BORGERS

### Consulting Editors:

Alan Ross Anderson Yehoshua Bar-Hillel C. A. Baylis Jiří Bečvář Jonathan F. Bennett Paul Bernays Andrzej Blikle C. C. Chang William Craig Martin Davis Edward E. Dawson Verena H. Dyson CALVIN C. ELGOT EBERHARD M. FELS FREDERIC B. FITCH G. HASENJAEGER HANS HERMES CAROL R. KARP H. JEROME KEISLER DONALD L. KREIDER DONALD MONK RICHARD MONTAGUE ANDRZEJ MOSTOWSKI GERT H. MÜLLER F. C. OGLESBY Rózsa Péter Michael O. Rabin Abraham Robinson Gene F. Rose Barkley Rosser Arto Salomaa Kurt Schütte Dana Scott Joseph R. Shoenfield J. F. Thomson Jean van Heijenoort Charles E. M. Yates

Volume 35 September NUMBER 3 1970

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 © 1971 by the Association for Symbolic Logic, Inc. Reproduction by photostat, photo-print, microfilm, or like process by permission only

#### TABLE OF CONTENTS

Hierarchies of Boolean algebras, By LAWRENCE FEINER	365
The strong homogeneity conjecture. By L. FEINER	375
A coding theorem for isols. By ERIK ELLENTUCK /	378
A cornucopia of minimal degrees. By LEONARD P. SASSO, Jr	383
Admissible ordinals and intrinsic consistency. By MICHAEL MACHTEY	389
Construction of models for algebraically generalized recursive function theory. By	
H. R. STRONG	401
Strong partition properties for infinite cardinals. By E. M. KLEINBERG	410
A note on the hyperarithmetical hierarchy. By H. B. ENDERTON and HILARY	
PUTNAM	429
The decidability of the Kreisel-Putnam system. By Dov M. GABBAY	431
Reviews	438
Announcing Philosophia, an Israeli journal of philosophy	490
Notice of a meeting of the Association for Symbolic Logic	490
Announcing travel grants for information processing scientists and computer	
specialists.	490
Fellowship and research opportunities in the mathematical sciences	490
Notice of the 1971 International Congress for Logic, Methodology and Philosophy	1 - 5
of Science	491
Notices of meetings of the Association for Symbolic Logic	491
The second s	

The JOURNAL OF SYMBOLIC LOGIC is the official organ of the Association for Symbolic Logic Inc., published quarterly, in the months of March, June, September, and December. The JOURNAL is printed for the Association by *William Clowes and Sons, Ltd., Beccles, Suffolk, England.* The Journal also contains the official notices of the Division of Logic, Methodology and Philosophy of Science of the International Union of History and Philosophy of Science.

Membership in the Association is open to any one interested in its work. Annual dues for students are 3.00. Dues for other individual members are 9.50 per year. Dues include subscription to the current volume of the Journal. For their personal use, members of two years' standing may purchase back issues at a 40% discount.

For non-members, subscription to the current volume of the Journal is 17.00 per year. Back volumes may be purchased at 17.00 per volume for volumes 1-17 and at 20.00 per volume for later volumes.

Applications for membership in the Association, subscriptions to the JOURNAL, requests for information, all business correspondence, and notices of change of address should be sent to *The Association for Symbolic Logic, P.O. Box 6248, Providence, Rhode Island 02904.* 

Articles for publication in the JOURNAL should be sent to Gerald E. Sacks, Department of Mathematics, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139 or to Burton S. Dreben, Department of Philosophy, Emerson Hall, Harvard University, Cambridge, Massachusetts 02138 or to Anil Nerode, Department of Mathematics, Cornell University, Ithaca, N.Y. 14850 or to Azriel Lévy, Department of Mathematics, Hebrew University, Jerusalem, Israel or to Dagfinn Føllesdal, Department of Philosophy, University of Oslo, Blindern, Oslo 3, Norway.

Authors and publishers are requested to send, for review, copies of books and reprints of articles in journals to Alonzo Church, The Journal of Symbolic Logic, U.C.L.A., Los Angeles, California 90024.

All manuscripts for publication should be typewritten with wide margin and wide spacing between the lines, and the author should keep a complete copy; footnotes should be numbered consecutively and should also be typed with wide margin and wide spacing (preferably on a separate sheet). If an article is of more than thirty-two (printed) pages in length, the editors reserve the right to divide it between two or more, not necessarily consecutive, numbers. Authors receive fifty reprints of each article, with covers, and additional reprints may be purchased if desired.

Continued on inside back cover