

THE
JOURNAL
OF
SYMBOLIC LOGIC

EDITED BY

PETER ACZEL

GEORGE BOLOS

JOHN P. BURGESS

HERBERT B. ENDERTON

SY D. FRIEDMAN

GERHARD JÄGER

AKIHIRO KANAMORI

JULIA KNIGHT

MICHAEL MAKKAJ

ANDRE SCEDROV

RICHARD A. SHORE

A. S. TROELSTRA

JOHAN VAN BENTHEM

VOLUME 56 · NUMBER 1 · MARCH 1991

ISSN 0022-4812

**PUBLISHED QUARTERLY BY THE ASSOCIATION FOR SYMBOLIC LOGIC, INC. WITH
SUPPORT FROM ICSU AND FROM INSTITUTIONAL AND CORPORATE MEMBERS**

*Copyright © 1991 by the Association for Symbolic Logic, Inc. All rights reserved.
Reproduction by photostat, photo-print, microfilm, or like process by permission only.*

TABLE OF CONTENTS

Survey/expository paper:	
Reflecting on incompleteness. By SOLOMON FEFERMAN	1
The structure of graphs all of whose Y -sections are internal sets. By BOŠKO ŽIVALJEVIĆ	50
Minimal prime ideals and arithmetic comprehension. By KOSTAS HATZIKIRIAKOU	67
Meager sets on the hyperfinite time line. By H. JEROME KEISLER and STEVEN C. LETH	71
Powers of the ideal of Lebesgue measure zero sets. By MAXIM R. BURKE	103
Ramsey cardinals, α -Erdős cardinals, and the core model. By DIRK R. H. SCHLINGMANN	108
Indiscernible sequences in a model which fails to have the order property. By RAMI GROSSBERG	115
On chains of relatively saturated submodels of a model without the order property. By RAMI GROSSBERG	124
Normalization theorems for full first order classical natural deduction. By GUNNAR STÅLMARCK	129
Where do sets come from?. By HAROLD T. HODES	150
Reducts of the random graph. By SIMON THOMAS	176
Amenable equivalence relations and Turing degrees. By ALEXANDER S. KECHRIS	182
Embedding the diamond in the Σ_2 enumeration degrees. By SEEMA AHMAD	195
Stratification and cut-elimination. By MARCEL CRABBÉ	213
Isomorphisms and nonisomorphisms of graph models. By HAROLD SCHELLINX	227
Abelian groups with modular generic. By JAMES LOVEYS	250
Admissible Suslin cardinals in $L(\mathbb{R})$. By STEVE JACKSON	260
Natural 3-valued logics—characterization and proof theory. By ARNON AVRON	276
The elementary class of products of totally ordered abelian groups. By DANIEL GLUSCHANKOF	295
There are reasonably nice logics. By WILFRID HODGES and SAHARON SHELAH	300
End-extensions preserving power set. By THOMAS FORSTER and RICHARD KAYE	323
Reviews	329
Annual Meeting of the Association for Symbolic Logic, Berkeley, 1990	361
The Arthur Prior memorial conference, Christchurch, 1989	372
Notices	383

THE JOURNAL OF SYMBOLIC LOGIC is published quarterly, in the months of March, June, September, and December, by the Association for Symbolic Logic, Inc., at 54 East Gregory Drive, Champaign, IL 61820. Second class postage is paid at Champaign, IL and additional offices. The 1991 annual subscription price is \$165. Postmaster: Send address changes to *The Journal of Symbolic Logic, Journal Department, UIP, 54 East Gregory Drive, Champaign, IL 61820*. Business correspondence should be sent to the Secretary-Treasurer of the Association, C. Ward Henson (address on inside back cover).

10 9 8 7 6 5 4 3 2 1 95 94 93 92 91

Continued on inside back cover