

THE REVIEW OF SYMBOLIC LOGIC

Edited by

Sean Walsh, *Coordinating Editor*

Walter Dean

Fernando Ferreira

Salvatore Florio

Silvio Ghilardi

Hans Halvorson

Simon Huttegger

Juliette Kennedy

Wilfried Sieg

Jamie Tappenden

VOLUME 14 • NUMBER 2 • JUNE 2021 • ISSN 1755-0203

Copyright © 2021 by the Association for Symbolic Logic. All rights reserved.
Reproduction by photostat, photo-print, microfilm, or like process by permission only.



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

THE REVIEW OF SYMBOLIC LOGIC

Coordinating Editor

Sean Walsh

Department of Philosophy, University of California, Los Angeles

Editors

Walter Dean

*Department of Philosophy
University of Warwick*

Fernando Ferreira

*Department of Mathematics
University of Lisbon*

Salvatore Florio

*Department of Philosophy
University of Birmingham*

Silvio Ghilardi

*Department of Mathematics
Università degli Studi di Milano*

Hans Halvorson

*Department of Philosophy
Princeton University*

Simon Huttegger

*Department of Logic and Philosophy
of Science University of California, Irvine*

Juliette Kennedy

*Department of Mathematics and Statistics
University of Helsinki*

Wilfried Sieg

*Department of Philosophy
Carnegie Mellon University*

Jamie Tappenden

*Department of Philosophy
University of Michigan*

Advisory Board

Maria Aloni

*Department of Philosophy and Institute
for Logic, Language and Computation
University of Amsterdam*

Roy Cook

*Department of Philosophy and Minnesota
Center for Philosophy of Science
University of Minnesota*

J. Michael Dunn

*Departments of Computer Science
and Philosophy
Indiana University*

Richard Kimberly Heck

Department of Philosophy Brown University

Geoffrey Hellman

*Department of Philosophy University of
Minnesota*

Elaine Landry

*Department of Philosophy University of
California, Davis*

Bernard Linsky

*Department of Philosophy University of
Alberta*

Penelope Maddy

*Department of Logic and Philosophy of
Science University of California, Irvine*

Edwin Mares

*School of History, Philosophy, Political
Science & International Relations
Victoria University of Wellington*

Rohit Parikh

*Department of Computer
and Information Science Brooklyn College,
City University of New York*

Greg Restall

*Department of Philosophy
University of Melbourne*

Stewart Shapiro

*Department of Philosophy
Ohio State University*

Gila Sher

*Department of Philosophy
University of California, San Diego*

Achille C. Varzi

*Department of Philosophy
Columbia University*

Rineke Verbrugge

*Institute of Artificial Intelligence
University of Groningen*

TABLE OF CONTENTS

Translations Between Linear and Tree Natural Deduction Systems for Relevant Logics SHAWN STANDEFER	285
What is a Rule of Inference? NEIL TENNANT	307
Two Arguments Against the Generic Multiverse TOBY MEADOWS	347
Doing without Action Types HEIN DUIJF, JAN BROERSEN, ALEXANDRA KUNCOVÁ, AND ALDO IVÁN RAMÍREZ ABARCA	380
<i>Lingua Characterica</i> and <i>Calculus Ratiocinator</i> : The Leibnizian Background of the Frege-Schröder Polemic JOAN BERTRAN-SAN MILLÁN	411
A Bridge between Q-Worlds ANDREAS DÖRING, BENJAMIN EVA, AND MASANAO OZAWA	447
An Expressivist Analysis of the Indicative Conditional with a Restrictor Semantics JOHN CANTWELL	487
A Learning-Theoretic Characterisation of Martin-Löf Randomness and Schnorr Randomness FRANCESCA ZAFFORA BLANDO	531

Subscription Information: *Review of Symbolic Logic* (ISSN 1755-0203) is published quarterly by Cambridge University Press for the Association for Symbolic Logic. Annual subscription rates for Volume 14 (2021): Institutional subscription rates, print and online: US \$1258.00 in the USA, Canada, and Mexico; UK £791.00 + VAT elsewhere. Institutional subscription rates, online only: US \$1079.00 in the USA, Canada, and Mexico; UK £679.00 + VAT elsewhere. Institutional subscription rates, print only: US \$1224.00 in the USA, Canada, and Mexico; UK £762.00 + VAT elsewhere. Individual subscription rates, online only: US \$260.00 in the USA, Canada, and Mexico; UK £163.00 + VAT elsewhere. Individual subscription rates, print only: US \$293.00 in the USA, Canada, and Mexico; UK £163.00 + VAT elsewhere. Institutional subscription correspondence should be sent to: Cambridge University Press, One Liberty Plaza, New York, NY 10006, USA, for customers in the USA, Canada, or Mexico. Customers elsewhere should contact: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, UK. POSTMASTER: Send address changes to: **Association for Symbolic Logic, c/o Journals Customer Services Department, Cambridge University Press, One Liberty Plaza, New York, NY 10006, USA**, USmemberservices@cambridge.org.

Association for Symbolic Logic. Individual Members of the Association for Symbolic Logic receive a print subscription to *The Review of Symbolic Logic* as a benefit of membership. Requests for information, applications for membership, orders for back volumes, business correspondence, and notices and announcements for publication in the *The Bulletin of Symbolic Logic* should be sent to the Secretary-Treasurer of the Association: **ASL, Department of Mathematics, University of Connecticut, 341 Mansfield Road, U-1009, Storrs, CT 06269-1009, USA**. The email address of the Association's business office is asl@uconn.edu. The ASL website is located at <http://www.aslonline.org>. Links from that site provide further information on the *Review* and on submitting papers for publication.

Coordinating Editor: Sean Walsh, Department of Philosophy, University of California, Los Angeles, 398 Dodd Hall, Los Angeles, CA 90095-1451, USA. Email: walsh@ucla.edu.

Copyright: All rights reserved. No part of this publication may be reproduced, in any form or by any means, electronic, photocopy, or otherwise, without permission in writing from Cambridge University Press. Photocopying information for users in the U.S.A.: Copying for internal or personal use beyond that permitted by Sec. 107 or 108 of the U.S. Copyright Law is authorized for users duly registered with the Copyright Clearance Center (CCC) Transaction Reporting Service, provided that the appropriate remittance per article is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923, USA. Specific written permission must be obtained for all other copying. General enquiries from the USA, Mexico, and Canada should be addressed to the New York office of Cambridge University Press <http://www.cambridge.org/us/information/rights/contacts/newyork.htm>; general enquiries from elsewhere should be addressed to the Cambridge office <http://www.cambridge.org/uk/information/rights/contacts/cambridge.htm>; permission enquiries from Australia and New Zealand should be addressed to the Melbourne office http://www.cambridge.org/aus/information/contacts_melbourne.htm; enquiries regarding Spanish-language translation rights (only) should be addressed to the Madrid office <http://www.cambridge.org/uk/information/rights/contacts/madrid.htm>

Copyright © Association for Symbolic Logic, 2021