

Zygon[®]

Journal of
RELIGION & SCIENCE



JUNE 2018

VOLUME 53 NUMBER 2

Founding Editor: RALPH WENDELL BURHOE (1911–1997)

Editor: WILLEM B. DREES, Tilburg Univ., The Netherlands

Book Review Editor: MLADEN TURK, Elmhurst College, USA

Assistant Editor: DEBRA HOSTETLER VAN DER MOLEN

Editorial Assistant and Web Site Editor: DAVID MARK GLOVER

Joint Publication Board, appointed by IRAS (www.iras.org), the Institute on Religion in an Age of Science (1954), and by CASIRAS (www.casiras.org), the Center for Advanced Study in Religion and Science (1972), which also supports the Zygon Center (www.zygoncenter.org):

SOLOMON H. KATZ, Prof. of Anthropology, Univ. of Pennsylvania (co-chair), USA

EDWIN C. LAURENSEN, Lawyer, McDermott Will & Emery LLP, New York, USA

KARL PETERS, Prof. Emeritus of Philosophy and Religion, Rollins College (co-chair, development), USA

MICHAEL RUSE, Lucyle T. Werkmeister Prof. of Philosophy, Florida State Univ., USA

JOHN A. TESKE, Prof. of Psychology, Elizabethtown College, USA

GAYLE E. WOLOSCHAK, Prof. of Radiology and Cell and Molecular Biology, Northwestern Univ., USA

Editorial Advisory Board:

FRANCISCO J. AYALA, Donald Bren Professor of Biological Sciences, Univ. of California Irvine, USA

ZAINAL ABDIN BAGIR, Center for Religious and Cross-Cultural Studies, Gadjah Mada University, Indonesia

ANINDITA N. BALSLEV, Philosophy & Forum, 'Cross Cultural Conversation', India and Denmark

JOSEPH BULBULIA, Evolutionary/Longitudinal Study of Religion, Victoria Univ., New Zealand

RONALD COLE-TURNER, H. Parker Sharp Chair of Theology and Ethics, Pittsburgh Theological Seminary, USA

MIHALY CSIKSZENTMIHALYI, Davidson Prof. of Psychology, Claremont Graduate Univ., USA

TERRENCE DEACON, Prof. of Biological Anthropology and Linguistics, Univ. of California Berkeley, USA

CELIA DEANE-DRUMMOND, Prof. of Theology, University of Notre Dame, USA

GEORGE ELLIS, Prof. of Applied Mathematics, Univ. of Cape Town, South Africa

DIRK EVERS, Prof. of Systematic Theology, Martin-Luther-University Halle-Wittenberg, Germany

OWEN J. FLANAGAN, James B. Duke Prof. of Philosophy, Psychology, and Neuroscience, Duke Univ., USA

MOHAMMED GHALY, Prof. of Islamic Law and Biomedical Ethics, Center for Islamic Legislation and Ethics, Doha, Qatar

URSULA GOODENOUGH, Prof. of Biology, Washington Univ., St. Louis, USA

NIELS HENRIK GREGERSEN, Prof. of Systematic Theology, Univ. of Copenhagen, Denmark

NIDHAL GUESSOUM, Prof. of Physics and Astronomy, American University of Sharjah, United Arab Emirates

PETER HARRISON, Director, Centre for the History of European Discourses, University of Queensland, Australia

PHILIP HEFNER, Prof. Emeritus of Systematic Theology, Lutheran School of Theology at Chicago, USA

MICHAEL S. HOGUE, Associate Prof. of Theology, Meadville Lombard Theological School, Chicago, USA

ANTJE JACKELÉN, Archbishop of the Lutheran Church of Sweden, Uppsala, Sweden

SELUNG CHUL KIM, Systematic Theology, Nanzan University, Japan

MELVIN J. KONNER, Samuel Candler Dobbs Prof. of Anthropology, Emory Univ., USA

LI JIANHUI, Prof. of Philosophy and Ethics, School of Philosophy and Sociology, Beijing Normal University, China

LIU XIAOTING, Prof. of Sciences and Humanities, Beijing Normal University, China

LU FENG, Ethics and Practical Philosophy, Tsinghua Univ., China

ANDREW B. NEWBERG, Thomas Jefferson Univ. Hospital, Philadelphia, USA

ANN MLLIKEN PEDERSON, Prof. of Religion, Augustana College, Sioux Falls, USA

GREGORY R. PETERSON, Philosophy of Religion, South Dakota State Univ., USA

VARADARAJA V. RAMAN, Prof. Emeritus of Physics and Humanities, Rochester Institute of Technology, USA

HOLMES ROLSTON, III, Prof. of Philosophy, Colorado State Univ., USA

ROBERT J. RUSSELL, Ian G. Barbour Prof. of Theology and Science, Graduate Theological Union, Berkeley, USA

ROBERT A. SEGAL, Sixth Century Chair in Religious Studies, Univ. of Aberdeen, UK

CHRISTOPHER SOUTHGATE, Senior Lecturer, Department of Theology, University of Exeter, UK

ANN TAVES, Professor of Religious Studies, University of California at Santa Barbara, USA

HAVA TIROSH-SAMUELSON, Irving and Miriam Lowe Prof. of Modern Judaism, Arizona State Univ., USA

MARY EVELYN TUCKER, Comparative Religion and Ecology, Yale Univ., USA

CLAUDIA VANNEY, Prof. of Physics and Philosophy, Universidad Austral, Argentina

FRANS DE WAAL, C. H. Candler Prof. of Psychology, Director Living Links Center, Emory Univ., USA

WESLEY J. WILDMAN, Professor of Philosophy, Theology, and Ethics, Boston Univ., USA

AMOS YONG, Director of Center of Missiological Research, Fuller Theological Seminary, USA

Statement of Perspective. The word *zygon* means the yoking of two entities or processes that must work together. It is related to *zygote*—meaning the union of genetic heritage from sperm and egg, a union that is vital in higher species for the continuation of advancement of life. The journal *Zygon* provides a forum for exploring ways to unite what in modern times has been disconnected—values from knowledge, goodness from truth, religion from science. Traditional religions, which have transmitted wisdom about what is of essential value and ultimate meaning as a guide for human living, were expressed in terms of the best understandings of their times about human nature, society, and the world. Religious expression in our time, however, has not drawn similarly on modern science, which has superseded the ancient forms of understanding. As a result religions have lost credibility in the modern mind. Nevertheless some recent scientific studies of human evolution and development have indicated how long-standing religions have evolved well-winnowed wisdom, still essential for the best life. *Zygon's* hypothesis is that when long-evolved religious wisdom is yoked with significant recent scientific discoveries about the world and human nature, there results credible expression of basic meaning, values, and moral convictions that provides valid and effective guidance for enhancing human life. *Zygon* also publishes manuscripts that are critical of this perspective, as long as such papers contribute to a constructive reflection on scientific knowledge, human values, and existential meaning.

Editorial Office and Book Review Office. *Zygon* Editorial Office, 1100 E. 55th Street, Chicago, IL 60615-5112, U.S.A. Telephone +1 773-256-0671. E-mail zygon@lstc.edu. Web site www.zygonjournal.org.

Manuscripts. Please submit manuscripts prepared for anonymous review, an abstract of at most 160 words, and an author note online via <http://mc.manuscriptcentral.com/zygon>. For author guidelines, see www.zygonjournal.org.

Electronic Access and Back Issues. The journal, including all previous issues, is available at www.wileyonlinelibrary.com. Back issues are available from Wiley Blackwell Publishing, 350 Main Street, Malden, MA 02148, U.S.A. For back volumes in microfilm: University Microfilms, 300 North Zeeb Road, Ann Arbor, MI 48106; microfiche from Kraus Microform, Route 100, Millwood, NY 10564.

Indexes and Abstracts. *Zygon* is indexed in the ATLA Religion Database (www.atla.com). The contents are indexed or abstracted in *Arts & Humanities Citation Index*, *Book Review Index*, *Children's Book Review Index*, *Current Contents*, *Dietrich's Index Philosophicus*, *Family Index*, *Guide to Social Science and Religion*, *Humanities Index*, *I B Z—Internationale Bibliographie der Geistes—und Sozialwissenschaftlichen Zeitschriftenliteratur*, *Internationale Bibliographie der Rezensionen Geistes—und Sozialwissenschaftlicher Literatur*, *Lancaster Index to Defence & International Security Literature*, *New Testament Abstracts*, *Periodicals Contents Index*, *Philosopher's Index*, *R I L M Abstracts of Music Literature*, *Religion Index One: Periodicals*, *Religious & Theological Abstracts*, *Repertoire Bibliographique de la Philosophie*, *Russian Academy of Sciences Bibliographies*, *Social Sciences Citation Index*, *Social Services Abstracts*, and *Sociological Abstracts*.

Production Editor: Aldreen Cruz (ZYGO@wiley.com)

Advertising. For information and rates, contact Advertising Sales Representative, Wiley Blackwell, 350 Main Street, Malden, MA 02148; corporatesalesusa@wiley.com.

Copyright. Copyright and copying © 2018 Joint Publication Board of *Zygon*. All rights reserved. No part of this publication may be reproduced, stored, or transmitted in any form or by any means without prior permission in writing from the copyright holder. Authorization to photocopy items for internal and personal use is granted by the copyright holder for libraries and other users registered with their local Reproduction Rights Organization (RRO), e.g., Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923, U.S.A. (www.copyright.com), provided the appropriate fee is paid directly to the RRO. This consent does not extend to other kinds of copying such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Special requests should be addressed to: permissions@wiley.com.

Disclaimer. The Publisher and Editor cannot be held responsible for errors or any consequences from the use of information in this journal. Views and opinions expressed do not necessarily reflect those of the Publisher and Editor; neither does publication of advertisement constitute any endorsement by the Publisher or the Editor of the product advertised.

Printed in the United States of America by The Sheridan Press.

ISSN 0591-2385 (Print)

ISSN 1467-9744 (Online)

For submission instructions, subscription and all other information visit: www.wileyonlinelibrary.com/journal/zygon

IN THIS ISSUE

EDITORIAL

- WILLEM B. DREES Mental Well-Being, Climate Change, and New Archival Material on Teilhard de Chardin

ARTICLE

- DAVID GRUMETT Teilhard de Chardin, Original Sin, and the Six Propositions
PAUL BENTLEY

MENTAL WELL-BEING, NEUROSCIENCE, AND RELIGION: CONTRIBUTIONS FROM THE SCIENCE AND RELIGION FORUM

- GILLIAN K. STRAINE Mental Well-Being, Neuroscience, and Religion:
MARK HARRIS Contributions from the Science and Religion Forum
FRASER WATTS Theology and Science of Mental Health and Well-Being
- LINDSAY BRUCE The Physicalized Mind and the Gut-Brain Axis:
SARAH LANE RITCHIE Taking Mental Health Out of Our Heads
JAIME WRIGHT In the Beginning: The Role of Myth in Relating Religion, Brain Science, and Mental Well-Being
- WILLIAM L. ATKINS Empirical Mindfulness: Traditional Chinese Medicine and Mental Health in the Science and Religion Dialogue
BEN RYAN The Church and Mental Health: Theological and Practical Responses

THE WICKED PROBLEM OF CLIMATE CHANGE

- KARL E. PETERS Living with the Wicked Problem of Climate Change
PAUL H. CARR What Is Climate Change Doing to Us and for Us?
JAMES CLEMENT VAN PELT Climate Change in Context: Stress, Shock, and the Crucible of Livingkind
- ROBERT S. PICKART Climate Change at High Latitudes: An Illuminating Example
EMILY E. AUSTIN Soil Carbon Transformations
DAVID A. LARRABEE Climate Change and Conflicting Future Visions
PANU PIHKALA Eco-Anxiety, Tragedy, and Hope: Psychological and Spiritual Dimensions of Climate Change
CAROL WAYNE WHITE Re-Envisioning Hope: Anthropogenic Climate Change, Learned Ignorance, and Religious Naturalism
MATTHEW FOX Climate Change, *Laudato Si'*, Creation Spirituality, and the Nobility of the Scientist's Vocation
CHRISTOPHER VOLPE Art and Climate Change: Contemporary Artists Respond to Global Crisis
JIM RUBENS The Wicked Problem of Our Failing Social Compact
PETER L. KELLEY Crossing the Divide: Lessons from Developing Wind Energy in Post-Fact America

CONTENTS

EDITORIAL

Mental Well-Being, Climate Change, and New Archival Material on Teilhard de Chardin	WILLEM B. DREES	301
--	-----------------	-----

ARTICLE

Teilhard de Chardin, Original Sin, and the Six Propositions	DAVID GRUMETT AND PAUL BENTLEY	303
--	--------------------------------	-----

MENTAL WELL-BEING, NEUROSCIENCE, AND RELIGION: CONTRIBUTIONS FROM THE SCIENCE AND RELIGION FORUM

Mental Well-Being, Neuroscience, and Religion: Contributions from the Science and Religion Forum	GILLIAN K. STRAINE AND MARK HARRIS	331
---	---------------------------------------	-----

Theology and Science of Mental Health and Well-Being . . .	FRASER WATTS	336
--	--------------	-----

The Physicalized Mind and the Gut-Brain Axis: Taking Mental Health Out of Our Heads	LINDSAY BRUCE AND SARAH LANE RITCHIE	356
--	---	-----

In the Beginning: The Role of Myth in Relating Religion, Brain Science, and Mental Well-Being	JAIME WRIGHT	375
--	--------------	-----

Empirical Mindfulness: Traditional Chinese Medicine and Mental Health in the Science and Religion Dialogue	WILLIAM L. ATKINS	392
--	-------------------	-----

The Church and Mental Health: Theological and Practical Responses	BEN RYAN	409
--	----------	-----

THE WICKED PROBLEM OF CLIMATE CHANGE

Living with the Wicked Problem of Climate Change	KARL E. PETERS	427
--	----------------	-----

What Is Climate Change Doing to Us and for Us?	PAUL H. CARR	443
--	--------------	-----

Climate Change in Context: Stress, Shock, and the Crucible of Livingkind	JAMES CLEMENT VAN PELT	462
---	------------------------	-----

Climate Change at High Latitudes: An Illuminating Example	ROBERT S. PICKART	496
--	-------------------	-----

Soil Carbon Transformations	EMILY E. AUSTIN	507
---------------------------------------	-----------------	-----

Climate Change and Conflicting Future Visions	DAVID A. LARRABEE	515
---	-------------------	-----

Eco-Anxiety, Tragedy, and Hope: Psychological and Spiritual Dimensions of Climate Change	PANU PIHKALA	545
---	--------------	-----

Re-Envisioning Hope: Anthropogenic Climate Change, Learned Ignorance, and Religious Naturalism	CAROL WAYNE WHITE	570
---	-------------------	-----

Climate Change, <i>Laudato Si'</i> , Creation Spirituality, and the Nobility of the Scientist's Vocation	MATTHEW FOX	586
Art and Climate Change: Contemporary Artists Respond to Global Crisis	CHRISTOPHER VOLPE	613
The Wicked Problem of Our Failing Social Compact	JIM RUBENS	624
Crossing the Divide: Lessons from Developing Wind Energy in Post-Fact America	PETER L. KELLEY	642

REVIEW

<i>A Natural History of Human Morality</i> By Michael Tomasello	LLUIS OVIEDO	663
--	--------------	-----

PATRONS		666
-------------------	--	-----

ANNOUNCEMENTS		668
-------------------------	--	-----

• Visit us at www.zygonjournal.org •

[*Zygon*, vol. 53, no. 2 (June 2018)]

© 2018 by the Joint Publication Board of *Zygon*. ISSN 0591-2385 (Print), ISSN 1467-9744 (Online)
Zygon and its logo are registered trademarks.

Information for Subscribers. *Zygon: Journal of Religion and Science* is published quarterly by the Joint Publication Board of *Zygon*, 1100 East 55th Street, Chicago, IL 60615-5112, USA, phone +1-773-256-0671, e-mail zygon@lstc.edu, through Wiley Subscription Services, Inc., a Wiley company, 111 River St., Hoboken, NJ 07030-5774, USA.

Subscription Prices. Personal: print + online \$97/£86/€97; AAR members: print + online \$80/£66/€80; ISSR Fellows and Associates print + online \$80/£66/€80; Students: print + online \$61/£55/€61; Institutional: print + online \$485/£405/€510, print only \$388/£324/€408, online only \$388/£324/€408. Prices are exclusive of tax. Asia-Pacific GST, Canadian GST/HST, and European VAT will be applied at the appropriate rates. For more information on current tax rates, please go to www.wileyonlinelibrary.com/tax-vat. The price includes online access to the current and all online back files to January 1, 2011, where available. For other pricing options, including access information and terms and conditions, please visit www.wileyonlinelibrary.com/access.

Journal Customer Services: For ordering information, claims, and any inquiries concerning your journal subscription please go to www.wileycustomerhelp.com/ask or contact your nearest office.

Americas: Email: cs-journals@wiley.com; Tel: +1 781 388 8598 or +1 800 835 6770 (toll free in the USA & Canada).

Europe, Middle East, and Africa: Email: cs-journals@wiley.com; Tel: +44 (0) 1865 778315.

Asia Pacific: Email: cs-journals@wiley.com; Tel: +65 6511 8000.

Japan: For Japanese speaking support, Email: cs-japan@wiley.com; Tel: +65 6511 8010 or Tel (tollfree): 005 316 50 480.

Visit our Online Customer Help available in 7 languages at www.wileycustomerhelp.com/ask

Mailing. Periodical postage paid at Hoboken, New Jersey, and additional offices. Postmaster: Send address changes to *Zygon*, John Wiley & Sons Inc., C/O The Sheridan Press, PO Box 465, Hanover, PA 17331.

Delivery Terms and Legal Title. Where the subscription price includes print issues and delivery is to the recipient's address, delivery terms are Delivered at Place (DAP); the recipient is responsible for paying any import duty or taxes. Title to all issues transfers FOB our shipping point, freight prepaid. We will endeavour to fulfil claims for missing or damaged copies within six months of publication, within our reasonable discretion and subject to availability.

Printed in the USA by The Sheridan Group