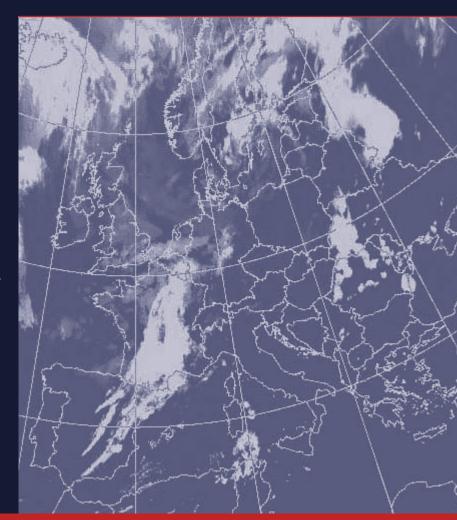
# EUROPEAN REVIEW



**FOCUS: CAUSALITY** 

INTERDISCIPLINARY JOURNAL OF THE HUMANITIES AND SCIENCES OF THE ACADEMIA EUROPAEA: THE ACADEMY OF EUROPE

### **EUROPEAN REVIEW**

#### Published in Association with the Academia Europaea

EDITOR-IN-CHIEF
Professor Theo D'haen
English and Comparative Literature,
Leuven University, Blijde Inkomststraat 21-3311,
B-3000 Leuven, BELGIUM
E-mail: theo.dhaen@arts.kuleuven.be

EDITORIAL BOARD
Professor Ivan T. Berend
Center for European and Russian Studies,
UCLA, 11367 Bunche Hall Box 951446
CA 90095-1446 Los Angeles, UNITED STATES
Fax: (1)-310-206-3555 e-mail: iberend@history.ucla.edu

Sir Arnold Burgen 8a Hills Avenue, Cambridge CB1 7XA, UK Fax: (44) 1223-740144 E-mail: asvb@cam.ac.uk

Professor Gian Vittorio Caprara Dipartimento di Psicologia, Universita degli studi di Roma Via dei Marsi 78, 00185 Roma, ITALY E-mail: gianvittorio.caprara@uniroma1.it

Professor Barbro Johansson Wallenberg Neuroscience Center Exp. Brain Research Lab. BMC A13, SE-221 84 Lund, SWEDEN E-mail: barbro.johansson@neurol.lu.se

Professor Stephan Leibfried Center for Social Policy Research, University of Bremen, Parkallee 39,28209 Bremen, GERMANY E-mail: stlf@zes.uni-bremen.de

Professor Ole Petersen Department of Physiology, University of Liverpool, PO Box 147, Liverpool L69 3BX, UK E-mail: o.h.petersen@liverpool.ac.uk

Professor Juergen Renn MPI fuer Wissenschaftsgeschichte Wilhelmstrasse 44, Berlin 10117, GERMANY E-mail: renn.office@mpiwg-berlin.mpg.de

Professor Piotr Sztompka Institute of Sociology, Jagiellonian University, Grodzka 52, 31-044 Cracow, POLAND Fax: (48)12-222129 e-mail: ussztomp@cyf-kr.edu.pl

Professor Dr Henk Wesseling
Institute for Advanced Study,
Meijboomlaan 1,
2242 PR Wassenaar, THE NETHERLANDS
E-mail: h.l.wesselina@mias.knaw.nl

Professor Björn Wittrock Swedish Collegium for Advanced Study, Götavägen 4, Se-752 36 Uppsala, SWEDEN E-mail: Bjorn.Wittrock@swedishcollegium.se

Professor Barbara Wright
Department of French,
Trinity College Arts Building, Dublin 2, IRELAND
Fax: (353)16717118 e-mail: bwright@tcd.ie

#### CONSULTING EDITORS

Professor Werner Arber University of Basel, Switzerland
Professor Paul Crutzen Max-Planck-Institut für Chemie, Germany
Viscount Etienne Davignon Société Générale de Belgique, Belgium
Professor Edmond Malinvaud Paris, France
Professor Hubert Markl University of Constance, Germany
M Thierry de Montbrial Institut Français des Relations Internationales,
France

#### Subscriptions

European Review (ISSN 1062-7987; electronic 1474-0575) is published quarterly in February, May, July and October. The subscription price of volume 18 (2010) (which includes postage) is £177 net (USA, Canada and Mexico US\$311) for institutions print and electronic, institutions electronic only £156/\$277; £30 net (USA, Canada and Mexico US\$55) for individuals ordering direct from the publisher and certifying that the journal is for their personal use. Single parts cost £46 (USA, Canada and Mexico US\$80) plus postage. Members of the Academia Europaea receive the journal as part of their membership subscription.

Orders, which must be accompanied by payment, may be sent to any bookseller, subscription agent or direct to the publisher: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU; or in the USA, Canada and Mexico: Cambridge University Press, Journals Fulfillment Department, 100 Brook Hill Drive, West Nyack, NY 10994–2133. EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number. Japanese prices for institutions are available from Kinokuniya Company Ltd, PO Box 55, Chitose, Tokyo 156, Japan.

Prices include delivery by air. Copies of the journal for subscribers in the USA, Canada and Mexico are sent by air to New York.

Application to mail at Periodicals Postage Rates is pending at New York, NY.

Please enquire about special rates for members of other learned societies, e-mail: journals@cambridge.org

#### Copying

This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA. Organisations in the USA who are also registered with CCC may therefore copy material (beyond the limits permitted by sections 107 and 108 of U.S. Copyright law) subject to payment to CCC of the per-copy fee of \$12.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 1062-7987/2010 \$12.00.

ISI Tear Sheet Service, 3501 Market Street, Philadephia, PA 19104, USA, is authorised to supply single copies of separate articles for private use only.

Organisations authorised by the Copyright Licensing Agency may also copy material subject to the usual conditions.

For all other use, permission should be sought from Cambridge University Press.

For further information on European Review or other Press titles access journals.cambridge.org/erw or cambridge.org/.

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see www.fsc.org for information.

Printed in the United Kingdom by the University Press, Cambridge

© Academia Europaea 2010

Professor Quentin Skinner Christ's College, Cambridge, UK

# **European Review**

## VOLUME 18 NUMBER 4 October 2010

Focus: Causality	
Causality in Natural, Technical, and Social Systems Klaus Mainzer	433
Kiaus Wainzer	733
Causality and Entanglement in the Quantum World	155
Jürgen Audretsch	455
Quantum Information and Randomness	
Johannes Kofler and Anton Zeilinger	469
Contingency and Causality in Economic Processes – Conceptualizations,	
Formalizations, and Applications in Counterfactual Analysis	401
Marco Lehmann-Waffenschmidt	481
Relating Time and Causality in Interactive Distributed Systems	
Manfred Broy	507
Sponsors	