

# Arabic Sciences and Philosophy

A HISTORICAL JOURNAL

22:1 MARCH 2012

**CAMBRIDGE**  
**UNIVERSITY PRESS**

# Arabic sciences and philosophy

## EDITORIAL BOARD

EXECUTIVE EDITOR: Roshdi Rashed, *CNRS, Paris – University of Tokyo*

MANAGING EDITOR: Ahmed Hasnaoui, *CNRS, Paris*

EDITORIAL SECRETARY: Aline Auger, *CNRS, Paris*

## ADVISORY EDITORIAL BOARD

André Allard  
*FNRS, Belgium*  
Amos Bertolacci  
*Scuola Normale Superiore, Pisa*  
Charles Burnett  
*Warburg Institute, London*  
Charles Butterworth  
*University of Maryland*  
Menso Folkerts  
*University of Munich*  
Bernard R Goldstein  
*University of Pittsburgh*  
Dimitri Gutas  
*Yale University*  
Jan P Hogendijk  
*University of Utrecht*  
Christian Houzel  
*Université Paris 7*

Geoffrey E R Lloyd  
*Darwin College, Cambridge*  
Luigi Maieru  
*University of Calabria*  
F Jamil Ragep  
*McGill University*  
Marwan Rashed  
*ENS, Paris*  
Nathan Sivin  
*University of Pennsylvania*  
Richard Sorabji  
*King's College, London*  
Tony Street  
*Faculty of Divinity, Cambridge*  
Noel M Swerdlow  
*California Institute of Technology*  
Robert Wisnovsky  
*McGill University*

Deceased members: Hélène Bellosta, Donald Hill, Edward S Kennedy, Muhsin Mahdi, Michael E Marmura, David Pingree, Adolph Youckkevitch

*Publié avec le concours du CNRS/Published with the support of CNRS*

SUBSCRIPTIONS: *Arabic sciences and philosophy* (ISSN: 0957–4239) is published twice a year in March and September. Two parts form a volume. The subscription price (including VAT) for volume 22 (2012) which includes print and electronic access is £151.00 net (US \$256.00 in USA, Canada and Mexico) for institutions; £55.00 (US \$93.00) for individuals, which includes print only, ordering direct from the publishers and certifying that the journal is for their personal use. The electronic-only price available to institutional subscribers is £144.00 (US \$246.00 in USA, Canada and Mexico). Single parts are £82.00 net (US \$140.00 in USA, Canada and Mexico) plus postage. 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. Orders, which must be accompanied by payment, may be sent to any bookseller or subscription agent or to the publishers: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, UK and in the USA, Canada and Mexico, The Journals Fulfillment Department, 100 Brook Hill Drive, West Nyack, New York 10994-2133, USA. Japanese prices for institutions are available from Kinokuniya Company Ltd, P.O. Box 55, Chitose, Tokyo 156, Japan. Prices include delivery by air.

COPYING. This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA. Organizations in the USA who are also registered with C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of US copyright law) subject to payment to C.C.C. of the per-copy fee of \$15.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 0957–4239/2012/\$15.00

Organizations authorized by the Copyright Licensing Agency may also copy material subject to the usual conditions.

ISI Tear Sheet Service, 3501 Market Street, Philadelphia, Pennsylvania 19104, USA, is authorized to supply single copies of separate articles for private use only.

For all other use, permission should be sought from Cambridge or the American Branch of Cambridge University Press.

*Advertising. Enquiries about advertising in this journal should be sent to the publishers.*

Information on *Arabic sciences and philosophy* and all other Cambridge journals can be accessed via [cambridge.org/](http://cambridge.org/).

© CAMBRIDGE UNIVERSITY PRESS 2012

*Printed in the United Kingdom by Henry Ling Ltd., at the Dorset Press, Dorchester, Dorset, DT1 1HD*

## CONTENTS

ROSHDI RASHED L'angle de contingence: un problème de philosophie des mathématiques	1
AHMAD IGHBARIAH Between Logic and Mathematics: al-Kindī's Approach to the Aristotelian Categories	51
KHALED EL-ROUAYHEB Post-Avicennan Logicians on the Subject Matter of Logic: Some Thirteenth- and Fourteenth-Century Discussions	69
BENJAMIN GLEEDE <i>Creatio ex nihilo</i> – a Genuinely Philosophical Insight Derived from Plato and Aristotle? Some Notes on the <i>Treatise on the Harmony between the Two Sages</i>	91
HÉLÈNE BELLOSTA De l'usage des coniques chez Ibrāhīm ibn Sinān	119
ESSAY-REVIEW	
IOANNIS M. VANDOULAKIS The Readings of Apollonius' <i>On the Cutting off of a Ratio</i>	137
IN MEMORIAM	151