QUARTERLY REVIEWS OF BIOPHYSICS

CONTENTS

J. EISINGER and W. E. BLUMBERG	
Environmental intoxicants and their fundamental interactions	429
JOSEF EISINGER	
Biochemistry and measurement of environmental lead intoxication	439
J. M. WOOD, Y-T. FANCHIANG and W. P. RIDLEY	
The biochemistry of toxic elements	467
W. E. BLUMBERG	
Enzymic modification of environmental intoxicants: the role of cytochrome P-450.	481
ARTHUR M. LANGER	
Crystal faces and cleavage planes in quartz as templates in biological processes	543
STANLEY DAGLEY	
Determinants of biodegradibility	577
JAMES E. TROSKO and CHIA-CHENG CHANG	
Genes, pollutants and human diseases	603
Opening Address by the President of IUPAB	629
News from IUPAB	637



CAMBRIDGE UNIVERSITY PRESS Published for the International Union for

COUNCIL OF IUPAB

S. Ebashi (Japan) President

A. R. Gopal-Ayengar (India) Vice President

R. D. Keynes (U.K.) Vice-President

- B. Chance (U.S.A.) Hon. Vice-President
- K. Wüthrich (Switzerland) Secretary General

J. Coursaget (France) H. Eisenberg (Israel)

M. Errera (Belgium)

S. Estrada-O (Mexico)

V. S. Gurfinkel (U.S.S.R.)

P. G. Kostyuk (U.S.S.R.)

S. Maričić (Yugoslavia) L. D. Peachey (U.S.A.)

- D. C. Phillips (U.K.)
- F. M. Richards (U.S.A.)
- A. J. H. Vendrik (Netherlands)
- A. Wada (Japan)

Quarterly Reviews of Biophysics is the official organ of the International Union for Pure and Applied Biophysics (IUPAB). It is edited for the Council by: Professor Arne Engström, National Food Administration, Box 622, S-751 26 Uppsala, Sweden; Professor A. Ehrenberg, Department of Biophysics, Arrhenius Laboratory, Stockholm University, Fack S-104 05 Stockholm, Sweden; Professor R. D. Keynes, Physiological Laboratory, Cambridge CB2 3EG, England; Dr G. Felsenfeld, NIAMD Building 2, Room 301, National Institutes of Health, Bethesda, Maryland 20014, U.S.A.

© Cambridge University Press 1978

Permissions. For permission to reproduce material from Quarterly Reviews of Biophysics, please apply to the Cambridge or New York office of Cambridge University Press.

ISI Tear Service, 325 Chestnut Street, Philadelphia, Pennsylvania 19106, U.S.A. is authorized to supply single copies of separate articles for private use only.

Subscriptions. Quarterly Reviews of Biophysics (ISSN 0033-5835) is published quarterly. A complete volume may be purchased at the subscription price (which includes postage) if payment is made before publication of the volume is complete. The subscription price of Volume 11, 1978 is £30.00 net (US \$66.50 in U.S.A. and Canada). Single parts cost £9.00 net (US \$20.00 in U.S.A. and Canada) plus postage. Members of bodies affiliated to the I UPAB and individuals who certify that the journal is for their own personal use and order direct from the Press may subscribe at the reduced rate of £16.00 (US \$42.00 in U.S.A. and Canada). Orders should be sent to a bookseller or to Cambridge University Press, P.O. Box 110, Cambridge CB2 3RL or, in the U.S.A. and Canada, to Cambridge University Press, 32 East 57th Street, New York, N.Y. 10022. POSTMASTER: send address changes in the U.S.A. and Canada to Cambridge University Press, 32 East 57th Street, New York, N.Y. 10022.

Second class postage paid at New York, N.Y.