

QUARTERLY REVIEWS OF BIOPHYSICS

CONTENTS

- G. SCHMAHL, D. RUDOLPH, B. NIEMANN and O. CHRIST
Zone-plate X-ray microscopy 297
- CARL-IVAR BRÄNDÉN
Relation between structure and function of α/β -proteins 317
- O. B. PTITSYN and A. V. FINKELSTEIN
Similarities of protein topologies: evolutionary divergence,
functional convergence or principles of folding? 339



CAMBRIDGE UNIVERSITY PRESS
Published for the International Union for
Pure and Applied Biophysics

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) | S. Maričić (Yugoslavia) |
| H. Eisenberg (Israel) | L. D. Peachey (U.S.A.) |
| M. Errera (Belgium) | D. C. Phillips (U.K.) |
| S. Estrada-O (Mexico) | F. M. Richards (U.S.A.) |
| V. S. Gurfinkel (U.S.S.R.) | A. J. H. Vendrik (Netherlands) |
| P. G. Kostyuk (U.S.S.R.) | 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, Department of Medical Biophysics, Karolinska Institute, S-104 01 Stockholm 60, 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 1981

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 13, 1980 is £36.00 net (US \$97.50 in U.S.A. and Canada). Single parts cost £11.00 net (US \$31.00 in U.S.A. and Canada) plus postage. Members of bodies affiliated to the IUPAB 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 £19.00 (US \$55.00 in U.S.A. and Canada). Orders, which must be accompanied by payment, should be sent to a bookseller or to Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU or, 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. POSTMASTER: send address changes in U.S.A. and Canada to Cambridge University Press, 32 East 57th Street, New York, N.Y. 10022.

Copying

This journal is registered with the Copyright Clearance Center, 21 Congress Street, Salem, Mass. 01970. Organizations in the U.S.A. who are also registered with C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of U.S. © law) subject to payment to C.C.C. of the per-copy fee indicated in the code on the first page of the article. This consent does not extend to multiple copying for promotional or commercial purposes.

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

For all other use, permission should be sought from the Cambridge or New York offices of the Cambridge University Press.