# Journal of Biosocial Science

Incorporating *Biology and Society* of the Galton Institute

Published by the Biosocial Society

Cambridge, England

#### Editor: C. G. N. Mascie-Taylor

#### **Editorial Advisory Panel**

J. L. Boldsen G. A. Harrison D. M. Potts S. J. Ulijaszek
D. A. Coleman A. G. Hill P. F. Selman V. Reynolds
P. L. C. Diggory G. W. Lasker I. Timæus

For the Galton Institute

J. A. Beardmore R. Chester

Review Editor
Erica Haimes

Associate Editor Consultant
M. A. Herbertson D. F. Roberts

#### **Notice to Contributors**

The Journal of Biosocial Science publishes original papers, short reports; reviews, lectures, and book reviews dealing with social aspects of human biology, including reproduction and its control, gerontology, ecology, genetics and applied psychology; with biological aspects of the social sciences, including sociology, social anthropology, education and criminology; with social and biological elements of nutrition, growth and development, health and epidemiology; and with biosocial aspects of demography. Preference will be given to material which is clearly interdisciplinary.

Papers are considered for publication on the understanding that they have not been, and will not be, published elsewhere in whole or in part, and that, where customary, they have been approved for publication by the relevant Head of Department. The Editor is not responsible for any loss of or damage to manuscripts or illustrations and his decision on all editorial matters is final. This Journal is covered by Current Contents, Biological Abstracts, Psychological Abstracts and Population Index.

Manuscripts should be sent in duplicate to the Editor, Journal of Biosocial Science, Department of Biological Anthropology, Downing Street, Cambridge CB2 3DZ. They should be clearly typewritten, on one side of the paper only, with a  $1\frac{1}{4}$  inch margin, and be double-spaced and in the English language. Spelling should follow that of the Concise Oxford Dictionary. The Editor reserves the right to make minor literary emendations in the final editing, but manuscripts will not be altered substantially without consultation with the author or marked unless the paper is thought provisionally to be acceptable. The author is responsible for the accuracy of quotations, tabular matter and references. Manuscripts or tables prepared on dot-matrix printers are not acceptable.

Manuscripts should bear the title of the paper, name of the Institution where the work was done, the present postal address of the author if different from that of the Institution, and a short running head of not more than 50 letters. Titles should be brief. A short summary should precede the text. Acknowledgments should be made in a separate section.

**Diagrams** must be numbered and should bear the author's name, short title of the paper and figure number on the back. Captions should be typed on a separate sheet.

**Tables** should be typed on separate sheets, be given Arabic numbers and be headed by adequate captions. Their approximate position in the text should be indicated by a note in the margin. They should not exceed in size the equivalent of one page of print. Weights and measurements should be given in metric units. Standard abbreviations should be used ( $\mu$ g, mg, g, kg; ml, l; mm, cm, m, km, °C, %, <, >, hr, min). Abbreviations should not be followed by, and initials need not be separated by, full points (eg, FPA). Mean values should, where possible, be accompanied by standard errors or similar statistical indications of variance.

**References** in the text should be given in the manner that is standard in the Journal. Titles of journals should be abbreviated according to the *World List of Scientific Periodicals*, 4th edn (1964) and its supplements, and as also given in *World Medical Periodicals*. An unpublished paper should not be cited unless it is already in press.

**Debate.** A *Debate* section is reserved for comments on papers appearing in previous issues. Authors whose papers are involved will be given an opportunity to reply for simultaneous publications. The Editor's decision as to publication of comments is final. Comments, not exceeding 500 words (one printed page), should be sent to Editor.

**Proofs** will be sent to contributors for minor corrections, and should be returned to the Editor within one week. Major alterations to the text will be accepted only at the author's expense. The date of receipt given at the end of the paper is that on which the script as published was received or agreed.

Offprints. A copy of the issue of the Journal in which the paper appears will be supplied free to the author, or, where there are two or more, to the author responsible for ordering offprints. Offprints may be purchased by ordering on the form sent out with the proofs.

© Biosocial Society. With the exception of abstracts of no more than 300 words, no part of this publication may be reproduced or stored in a retrieval system in any form or by any means without the permission of both the Biosocial Society and the author.

### JOURNAL OF BIOSOCIAL SCIENCE

The Journal of Biosocial Science is published by the Biosocial Society and distributed by the Portland Press (formerly the Biochemical Society Book Depot).

Orders, payments and enquiries regarding distribution should be sent to:

Journal of Biosocial Science, PO Box 32, Commerce Way, Colchester CO2 8HP, UK

For 1994 (Volume 26) there will be four issues, published in January, April, July and October.

The subscription rates for 1994 are:

|                     | UK and overseas (surface mail) | USA, Canada<br>and Mexico<br>(by air) | Japan only<br>(by ASP) |
|---------------------|--------------------------------|---------------------------------------|------------------------|
| Annual subscription | £63.00                         | \$120.00                              | £73.00                 |
| Per part            | £19.00                         | \$32.00                               | £22.50                 |

To avoid a break in continuity subscribers are asked to place their orders, either direct or through an agent, by mid-December. Should a Standing Order be required, this should be indicated in the order instructions and an invoice will then be sent automatically in the last quarter of each year.

Limited numbers of earlier issues are available. Volumes 1-10 (1969-78, original price £111.50) are offered to subscribers at the special price of £52.00 (US\$105.00) for the set.

Manuscripts for publication and books for review should be sent to:

The Editor,
Journal of Biosocial Science,
Department of Biological Anthropology,
Downing Street,
Cambridge CB2 3DZ,
UK

Second-class postage paid in Rahway, New Jersey, USA.

Postmaster. Send address corrections to: Journal of Biosocial Science, c/o Mercury Airfreight International Inc., 2323 Randolph Avenue, Avenel, NJ 07001, USA (US mailing agent).

## JOURNAL OF BIOSOCIAL SCIENCE

| Vol. 25, No. 4       | Contributors  | October 1993              |
|----------------------|---|---------------------------|
| A. A. Adewuyi        | Department of Demography and Social Statistics, Ob University, Nigeria                  | afemi Awolowo<br>p. 483   |
| M. Al-Salem          | Associate Professor, Department of Special Surgery, Jorda Science and Technology, Irbid |                           |
| S. Araki             | Professor and Chairman, Department of Public Health, University                         | -                         |
| R. Bairagi           | ICDDR, Dhaka, Bangladesh  | p. 455                    |
| G. Biondi            | Associate Professor of Human Population Biology University                              | of Turin, Italy p. 523    |
| D. Black             | Senior Lecturer in Quantitative Methods and Statistics, Us South Wales, Australia       |                           |
| A. M. Bowes          | Lecturer in Sociology, University of Stirling, Scotland                                 | p. 567                    |
| A. I. Chowdhury      | Research Fellow, ICDDR, Dhaka, Bangladesh   | p. 455                    |
| T. C. Dann           | Medical Officer, University of Warwick  | p. 531                    |
| G. F. De Stefano     | Assistant Professor in Biology, Tor Vergata University, Rome                            |                           |
| J. A. Ebigbola       | Department of Demography and Social Statistics, Ob-<br>University, Nigeria              | afemi Awolowo<br>p. 483   |
| E. Godina            | Senior Research Associate, Institute and Museum of Anthro                               | pology, Moscow            |
|                      | State University  | p. 562                    |
| C. R. Guglielmino    | Assistant Professor in Genetics and Microbiology University                             | of Pavia, Italy<br>p. 523 |
| U. C. Isiugo-Abanihe | Department of Sociology, University of Ibadan, Nigeria                                  | p. 483                    |
| C. L. Jenkins        | Research Fellow, Papua New Guinea Institute of Medical Re                               |                           |
| N. E. Johnson        | Professor in Sociology, Michigan State University, East Lans                            |                           |
| B. A. Kaplan         | Professor of Anthropology, Wayne State University, Detroit                              |                           |
| M. A. Koenig         | ICDDR, Dhaka, Bangladesh  | p. 455                    |
| D. Lai               | Research Assistant, Papua New Guinea Institute of Medical I                             |                           |
| G. W. Lasker         | Emeritus Professor of Anatomy, Wayne State University, De                               |                           |
| J. S. Lawson         | Professor and Head, School of Health Services Management New South Wales, Australia     | nt, University of p. 539  |
| W. P. Leong          | Research Assistant in Obstetrics and Gynaecology Nation                                 | al University of          |
|                      | Singapore   | p. 465                    |
| R. Lynn              | Professor of Psychology, University of Coleraine, N. Ireland                            | p. 557                    |
| K. Murata            | Instructor in Public Health, University of Tokyo  | p. 499                    |
| K. Owen              | Research Officer, Human Sciences Research Council, Pretoria                             |                           |
| S. S. Ratnam         | Head, Department of Obstetrics and Gynaecology, Nation                                  | ial University of         |
|                      | Singapore   | p. 465                    |
| N. Rawashdeh         | Associate Professor in Archaeology, Jordan University                                   |                           |
|                      | Technology, Irbid   | p. 553                    |
| O. Rickards          | Assistant Professor in Biology, Tor Vergata University, Rome                            |                           |
| D. F. Roberts        | Emeritus Professor of Human Genetics, University of Newcas                              | p. 531                    |
| T. Shakespeare       | Research Associate, Social Welfare Research Unit, University Newcastle                  | of Northumbria,<br>p. 566 |
| F. J. Sichona        | Statistics Department, University of Dar Es Salaam, Tanzania                            | a p. 473                  |
| J. F. Stallings      | Laboratory of Comparative Human Biology, Emory University                               |                           |
| E. Uchida            | Postgraduate student in Public Health, University of Tokyo                              | p. 499                    |
| O. A. C. Viegas      | Associate Professor in Obstetrics and Gynaecology, Nation                               |                           |
|                      | Singapore   | p. 465                    |
| X. Wen               | PhD student in Demography, Australian National University                               |                           |
| C. M. Worthman       | Director, Laboratory of Comparative Human Biology and As                                |                           |
| T. B. C              | of Anthropology, Emory University   | p. 425                    |
| K. P. Zaki           | Associate Professor of Integrative Studies and Sociology,                               | •                         |
|                      | University, East Lansing, USA   | p. 445                    |