

# B. S. D. B.

## Newsletter 11

Spring 1985

### I. MEETINGS

1) BSDB/BSCB Autumn Meeting, Trent Park 5th and 6th September, 1895

Trent Park is a conference centre, part of Middlesex Polytechnic, just North of London. This two day meeting will follow the BSCB Meeting on 2nd-4th September. (Details below).

#### Thursday 5th

(i) Joint BSCB/BSDB Symposium on "EPITHELIAL MAINTENANCE AND WOUND HEALING" Organiser: John Couchman (Unilever). Speakers include: I. Mackenzie (Iowa), M. Pepys, J. Polack (Hammersmith), M. Green (Unilever).

(ii) "MAMMALIAN DEVELOPMENT". Organiser: Martin Johnson (Cambridge).

This discussion meeting will be in four sessions. Topics and speakers include:

Repeat sequences in development - P Brulet (Paris), N. Hastie (Edinburgh), C. Watson (London), J. McConnell (Cambridge).

Homoeo-boxes and somites - I. Jackson (London), B. Hogan (Mill Hill), G. Morriss-Kaye (Oxford), R. Keynes (Cambridge), C. Stern (Oxford).

Imprinting - Azim Surani (Cambridge)

Cell Interactions - S. Lee (London), J. Heath (Oxford), A. Handyside (Carshalton).

Transgenic Mice - Robb Krumlauf (Mill Hill).

Cycling proteins - S. Howlett (Cambridge).

Cell lineages - R. Beddington (Oxford).

Also taking part:- Chris Graham, Richard Gardner, Marilyn Monk, Anne Warner, Anne McLaren and many others.

Discussion is informal, everyone welcome. Further enquiries to Martin Johnson, Anatomy Dept., Downing Street, Cambridge, CB2 3DY.

N.B. Members are invited to contribute papers and posters for this meeting. Please send abstracts (before 7th July) to: Mike Snow, MRC Mammalian Devt. Unit, 4 Stephenson Way, London, NW1 2HE.

The BSCB Meeting at Trent Park immediately precedes ours, and begins on Monday 2nd Sept. 1985.

Sessions Include:

Molecular and genetic analysis of matrix components  
Cell surface receptors for matrix components  
Matrix modification in development and neoplasia.

Registration forms for the BSCB meeting are available from: Colin Hughes, NIMR, The Ridgeway, Mill Hill, London NW7 1AA.

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2) BSDB/BSCB Spring Meeting. University of East Anglia, Norwich. April 7th-11th 1986  
Local Organizer Richard Warn

This will be a symposium meeting for both Societies. Symposia will be on April 7th - 8th.

BSDB Symposium "INTRODUCTION OF INFORMATIONAL MOLECULES INTO DEVELOPING SYSTEMS". Organizers: J. Gurdon & Azim Surani (Cambridge). Details in next Newsletter.

BSCB Symposium "THE CYTOSKELETON: CELL FUNCTION AND ORGANIZATION" Organizers: R. Warn (E. Anglia) and C. Lloyd (Unilever).

Wednesday April 9th

BSDB/BSCB Joint Session: "THE CYTOSKELETON IN DEVELOPMENT" Organizer: R. Warn. International Xenopus Workshop (which may run to Friday 11th). Organizer: J. Gurdon.

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3) BSDB Autumn Meeting. Durham, September 17th - 19th 1986

Local Organizer: J. Horton.

Meeting will include Workshops on: Immunology, Neurobiology, Oncogenes and Viruses in development, Mathematical Modelling.

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4) BSCB/BSDB Spring Meeting. University of Oxford.  
March 23rd - 26th 1987

Organizer: Gill Morriss-Kaye

The BSDB Symposium will be on "SEX CHROMOSOMES". Other topics to be arranged.

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5) EDBC 1987

The next European Developmental Biology Congress, organized by the Finnish Society for Developmental Biology, will be held at the University of Helsinki, 14th - 18th June 1987. To receive further information, please write to:

EDBC-Congress Secretariat,  
PO Box 189,  
SF-00171 Helsinki,  
Finland.

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## II. SOCIETY BUSINESS

### E.D.B.O.

Early this year the B.S.D.B. received a letter from the E.D.B.O. Committee concerning the setting up of a European laboratory for Developmental Biology. We publish here the contents of that letter and also the reply to it. Our reaction to those proposals was discussed both by the B.S.D.B. Committee and at the Annual General Meeting, at both of which the view expressed in the reply was endorsed unanimously. However, we would appreciate the comments of members on the contents of this correspondence. Please write to Chris Ford at Department of Biology, University of Sussex, Falmer, Brighton, East Sussex.

### FROM E.D.B.O.

#### PROPOSAL FOR THE CREATION OF A EUROPEAN LABORATORY OF DEVELOPMENTAL BIOLOGY

Progress in developmental biology seems rather slow in this latter part of the 20th Century. There is a lack of fresh concepts and many fundamental problems remain unsolved. Progress in these areas requires the use of the most modern techniques of cellular and molecular biology involving expensive equipment and ever increasing research budgets. The necessary techniques are not always to hand, or are not sufficiently perfected in any one place. Medium sized laboratories are therefore at somewhat of a disadvantage.

Moreover, increasing specialization with different model systems (Amphibians, Birds, Mice, Drosophila, Nematodes, Sea urchins, Ascidians etc.) can lead to a piecemeal approach which lacks conceptual cohesiveness. Conclusions drawn from one species are not necessarily applicable to others without considerable modification. Cross-fertilization of ideas would certainly be enhanced if specialists working on different systems were in closer contact. They would not have to just rely on reading relevant publications, or the once or twice yearly contacts with colleagues at conferences.

The Zoological Station in Naples brought together such a scientific community, and round the turn of the century the contact of American and European embryologists (Wilson, Boveri and others) led to the chromosomal theory of inheritance.

Seminars and summer schools are valuable in this respect, although the locations chosen on the basis of essentially non scientific considerations, and their temporary nature do not really satisfy the needs for more long term contacts.

This is why the setting up of a European Laboratory of Developmental Biology (EDBL) would seem desirable. Such

centres already exist for molecular biology (EMBL in Heidelberg) and nuclear physics (CERN in Geneva). Its location should satisfy the following criteria:

1. It should be situated in a university town with an airport, which would facilitate international exchanges. The university should have a postgraduate program in which the visiting specialists could participate. A one year teaching program could be devised, which would vary depending upon the presence of different specialists at EDBL. It would form part of the university's postgraduate program.

This mixture of research and postgraduate teaching would enable research workers with university teaching posts to be seconded to the laboratory. A stay in the laboratory could also form all, or part of, a sabbatical year.

2. It should be close to, but not the offshoot of, a laboratory of molecular biology. It is important that the research in cell and molecular biology is directed to problems in developmental biology. Priority should be given to the study of the integration of cellular processes in the development of a differentiated organism. Reduction to the level of the cell is, of course, necessary, but it is no longer sufficient (cf. changing ideas on the concept of the developmental programme).

3. It should unite, in one place, research groups working on different systems (Vertebrates, Drosophila, Nematodes, etc.). Marine organisms could be studied in a nearby marine laboratory if the host laboratory was not situated on the coast.

The close proximity of different groups should facilitate the cross-fertilization of ideas mentioned above. This would in no way detract from the work of the various separate laboratories working in this field. Training of specialists would always, at least initially, take place in such centres. The role of the EDBL would be to facilitate the exchange of ideas between the different specializations, and to provide a unique working environment where common problems could be tackled from different directions, leading, it would be hoped, to new concepts.

It does not seem that at present these criteria are fulfilled by any existing laboratory in Europe. It is therefore suggested that all proposals are examined so that a truly European laboratory of developmental biology could be set up that would satisfy these aims, by fulfilling the maximum number of the criteria listed above.

### Our Reply

The BSDB Committee has considered very carefully the paper sent to us by the EDBO Committee, and has discussed the issues raised and the proposals put forward.

First, we disagree with the rather pessimistic assessment of progress in developmental biology. The subject is refreshingly open to new techniques, its concepts are being reinterpreted in cellular and molecular terms, and scientists working on different developmental systems are working together more than ever before. We cannot therefore agree with the basic premise on which the proposal is founded, but we do feel nonetheless that EDBO could and should be a stimulus to improve the present exciting situation even further and to facilitate cooperation within Europe. The question is how best to do this?

Our view is that good science will come from pooling of expertise, talent and technical skills and the encouragement of experimental cooperation between established European groups. It is important to ensure that if a substantial investment of capital is contemplated, it should be used in the most efficient and flexible way. For this reason we do not support the creation of a European Developmental Biology Laboratory, at least not in the near future. Rather we would prefer investment in people and skills in the form of short-term and long-term EDBO Fellowships along the lines of the EMBO Fellowships Scheme.

We therefore propose that EDBO elicit from EMBO the details of how they manage this scheme. The BSDB also proposes that the management of such a scheme should be by a panel of scientists each of whom is both distinguished and active, and that this panel should be properly and legally constituted after extensive consultation. This general proposal has been put to the Annual General Meeting of our Society where it met with unanimous approval. We will also float both ideas in our Newsletter and ask our members to comment.

Your comments please!

## Present and Future Activities

By Martin Johnson (Chairman)

The Society has planned an increase in the scope and scale of its activities over the next two or three years, in part reflecting a growing interest in developmental biology but also in an attempt to reduce some of the damage arising from the rather tight funding situation at the moment. Rather than reduce the level of our meetings, we have attempted to bring more overseas speakers here (to bring them in range for discussions and joint projects), to encourage joint meetings with the BSCB (thereby bringing intellectual gains and economic savings) and to offer more travel bursaries (£2,500 in the current year). We are also via EDBO encouraging the setting up of a scheme of short and long term EDBO Fellowships to encourage experimental collaboration within Europe. In addition the Society is active in making representations to the Government concerning the accuracy of the scientific content of the Warnock report. We are also investigating the desirability of a 2 or 3 day teaching course in Developmental Biology given by members of the Society and aimed at providing an up to date picture of Developmental studies for University and College lecturers in this subject. The views of members of the Society on all of the above proposals, and indeed suggestions for other useful activities, will be very welcome. Please write to me at the Anatomy Department, Downing Street, Cambridge.

The funding of this activity is always a major problem. We have a generous 3-year contract with the Company of Biologists to be used exclusively to fund our Symposia as well as some continuing income from previous volumes and grants from various sources. However, our arrangements have always been somewhat ad hoc, and it is with an eye to remedying this that the Society is launching an appeal to Businesses both here and overseas. Again suggestions from you will be very welcome.

The income from existing and new sources should then cover all but our administrative costs. These, however, we have always felt were best covered from the subscription income rather than subsidy or registration fees at meetings. However, our subscription fee has been constant for almost ten years now, and is no longer anywhere near adequate to cover running expenses, the Newsletter and our subscriptions to EDBO and other organisations. The committee therefore proposed, and the Annual General Meeting accepted, an increased subscription fee. The advantage of raising the required money this way is that you can claim tax relief on the subscription - especially attractive is the joint offer of membership plus a cheap subscription to JEEM on which you can also get tax relief. Thus, both will cost you a total of only just over £20.00 net per year, and in addition you

can purchase Symposia volumes cheaply. In setting the new fee at £10.00 (Research Students £5.00), we were concerned to ensure no further rise would be necessary over the next five to ten years. The Company of Biologists have also proposed that in future the level of their grant to us may well be linked to our income from subscriptions. We hope that, although a rise in the fee is always painful, nonetheless the benefits of reduced registration fees, increased travel grants and greater Society activity as well as the points listed above, will clearly be seen to justify this decision. (Please complete a new Banker's Order now!).

Finally, can I urge members of the Society to send us suggestions for Symposia, for one day Workshop sessions, or for any other activities they think we should be undertaking.

Martin Johnson

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#### TRAVEL AWARDS

The Society sets aside £1000 a year for travel awards for our younger members. Priority is given to Ph.D. students to attend our own meetings. Any remaining funds are given to Postdocs to attend BSDB meetings or to Ph.D. students and Postdocs to go abroad. Only rarely are we able to help with foreign travel.

This year we are pleased to announce that a generous gift has been received from Elsevier Publications in connection with their new journal TRENDS IN GENETICS DNA, Differentiation and Development. This additional £1000 will be given specifically to Ph.D. students and Postdocs wishing to go abroad either to a meeting, or to visit a lab. We will give 5 or more grants from £50 - £200 in value.

Application forms can be obtained from the Treasurer, Dr. M. Bownes, Department of Molecular Biology, University of Edinburgh, Mayfield Road, Edinburgh.

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Ext. 516

Dr. Mike Balls 0602 700111  
Ext. 3087

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### The Warnock Report

In a previous Newsletter (10, Autumn, 1984) members were asked to send their comments on the Report of the Warnock Committee to Martin Johnson. Martin has now incorporated views received into a reply from our Society, which has been sent to the Warnock Committee. Our reply is not reproduced here, since it is several pages long. However, any member who wishes to see it is asked to write for a copy to Dr. M.H. Johnson (for address see Committee Members list). I should emphasize that the BSDB reply concentrated entirely on scientific matters. Given the large number of members, presumably of diverse beliefs, it was felt that any reply on ethical grounds would probably not be representative.

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### Powell and Warnock

The Powell Bill to prevent research on the human conceptus has been revived for discussion on June 7th in the House of Commons. If not successfully opposed, it will then move on to the House of Lords. The Bill is poorly drafted and has many areas of ambiguity that will make the implementation of existing therapeutic in vitro fertilization procedures difficult and attempts at their improvement almost impossible. This, together with the other implications for medical research and practice that flow from the Bill, has led to the Government Health Ministers, Opposition Health Spokesmen, Medical Research Council, Royal Society, Royal College of Obstetricians and Gynaecologists and this Society to oppose the Bill and to support a properly drafted Regulatory Bill due soon from the Government. PLEASE write to or telephone your local Member of Parliament before June 7th (and encourage others to do so) expressing the concern of the above bodies at the consequences of this Bill for Medical Practice and Research.

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### III. NEW BOOKS

"Molecular biology of the cytoskeleton" eds. G. Borisy, D.W. Cleveland & D.B. Murphy. Cold Spring Harbor. 1984. \$69.00 direct from publisher.

This volume contains 40 papers; representing many of the contributions at a Cold Spring Harbor meeting on the subject in April 1984. The papers are short and rather diverse, but fall into three broad categories: cytoskeletal proteins (structures, dynamics and isoforms), genetic analysis of the cytoskeleton using mutants, and the biochemistry of some of the cytoskeletal genes.

My feelings after looking through the volume were that the subject is now too large to hope to produce a digestible multi-author volume encompassing all its aspects. Because of this it lacks a theme to hold the various contributions together. Taken individually however, there are some excellent articles on several of the more recent aspects of cytoskeleton biology, particularly the analysis of cytoskeletal mutants. The major use of the volume will be for cell biology teachers who need examples of recent advances from the whole cytoskeletal field for their teaching.

C.C. Wylie

"The Mollusca Volume 3 Development" Eds. N.H. Verdank, J.A.M. Biggelaar and A.S. Tompa. Academic Press 1985. £39.50. ISBN 0-12-751403-1

To those of us whose only knowledge of molluscan embryos is that they have something called a polar lobe, this book is a must. It is part of a multi volume treatise on the molluscs, edited by Karl Wilbur. The volume is multi-author, and divided into eight chapters: gametogenesis (M.R. Dohmen), Meiotic maturation and fertilization (F.J. Lango), early development and the formation of germ layers (N.H. Verdank & J.A.M. Van den Biggelaar), organogenesis (B. Moor), origin of spatial organization (Van den Biggelaar & P. Guerrier), morphogenetic determination and differentiation (Verdank and J.N. Cather), biochemistry of molluscan development (J.R. Collier), and physiological ecology of marine molluscan larvae (B.L. Bayne).

As well as being useful to those in this particular field, this volume is likely to be extremely useful to teachers of developmental biology, since it represents the only book devoted to all aspects of mollusc development.

C.C. Wylie

Frontiers of Matrix Biology (R.L. Créteil, Ed.) Vol. 10: Methods of Connective Tissue Research. (R.L. Mazar and E. Mazar, Eds.). Karger, Basel 1985. pp. 250, Price \$98.25. ISBN: 3-8055-3899-5.

This volume catalogues the methods which have been used in the biochemical analysis of components of the extracellular matrix. Two chapters are devoted to collagen, the first covering extraction procedures, purification and characterization of different types, the second concerned with the basis of the mechanical properties of collagen, the crosslinking within and between the polypeptide chains. One chapter each is devoted to elastin, proteoglycans and structural glycoproteins, with fibronectin treated in an all too brief chapter of its own. A final chapter on matrix producing cells in culture is inadequate considering the wide interest in this subject, containing no more than a basic introduction to the range of possibilities within this area of methodology.

This is a useful source book for those embarking on a detailed analysis of connective tissues, but provides little guidance in choice of methodology, and virtually no practical advice on individual techniques. It does, however, fill the gap between the laboratory handbook and biological textbook and as such is an appropriate contribution to this field, where the plethora of problems contrasts sharply with the paucity of technology suitable for their solution.

This book is aimed directly at researchers and will allow a rapid assimilation of what has been done, whilst requiring further delving to discover how to do it.

David Stott

"Reproduction in mammals Volume 4. Reproductive Fitness" Eds. C.R. Austin and R.V. Short. Cambridge University Press. 1984. ISBN 0-521-31984-6 £8.95 (paperback).

This is the fourth volume in the second edition of a series entitled "Reproduction in Mammals" first written 12 years ago. Chapters include papers on Reproductive strategies, Genetics and Reproduction, Immunological factors in reproductive fitness and Reproductive Senescence. Although this volume is probably less relevant to developmental biologists than other volumes in the series (e.g. Vol.1 "germ cells and fertilizations", Vol. 2. Embryonic and fetal development") it is an extremely interesting book. The different chapters describe the complicated interactions and factors which are involved in reproductive behaviour and fitness. Essentially this book

covers topics at the cutting edge of natural selection, (there is no point in being a great hunter if your sperm count is a bit low). The volume is well written and edited and the illustrations are informative. A useful library addition.

Derek Brown

"Mammalian Cell Genetics" Martin L. Hooper. John Wiley, 1985. ISBN 0-471-89201-7. £63.25.

This is a first-rate reference book, having a high ratio of information to words and the said information being well-organized, well-documented and even enjoyable to read. I think it achieves its stated aim of "making the reader aware of work described elsewhere rather than explaining it in detail", though a surprising amount of detail enters these 175 pages. There are chapters on (methods and results in):- general culture of mammalian cells, selection of specialized or variant cell strains, fusion of cells or cell fragments, introduction of DNA into mammalian cells, and cell genetics of the germ line.

The book is aimed at researchers in or entering the field but will also be understandable to interested workers outside it. It seems sufficiently useful as a work of ready reference for scientists to covet a personal copy, but unfortunately the price will tend to make it a library book.

Dorothy Bennett

"Chimaeras in developmental biology" Eds. Nicole le Douarin and Anne McLaren. Academic Press. 1985. £56.00. ISBN 0-12-440580-0.

This is an extremely useful book. Ever since the earliest days of developmental biology natural markers have been used to identify manipulated cells and tissues in developmental experiments. The editors have gathered together a wide range of examples for this volume. It is divided into seven sections: technical aspects, chimaeras in cell lineage studies, hemopoietic and immune systems, muscle and skeleton, nervous system, urogenital system, and finally, perspectives.

As might be expected, the volume concentrates on bird and mouse embryos, with one fascinating diversion to the human, and brief mentions of other species in various chapters.

Given the power of the various chimaera techniques, and their increasing use, this is a timely and fascinating book.

C.C. Wylie

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BIOESSAYS, the new current-awareness monthly journal devoted to molecular, cellular and developmental biology, is now available to BSDB members at a 25% discount. The special rate for Volumes 3 and 4 (July 1985 to June 1986) is £21.00; members resident in the U.S. and Canada are entitled to the special rate of \$36.00.

Each issue of BIOESSAYS contains a number of review articles on specific areas in the biological sciences, as well as reports of recent discoveries and shorter articles describing current news and issues of interest. BIOESSAYS also publishes discussions and speculations on fundamental biological issues by some of the leading thinkers in the field. In addition, in the forthcoming year there will be special issues devoted to plant molecular genetics and immunology, and other special features are planned.

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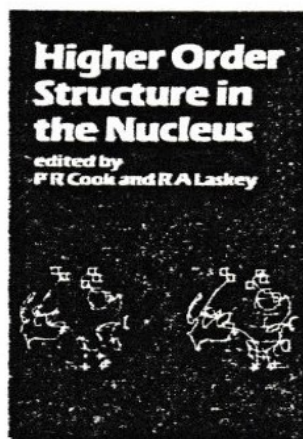
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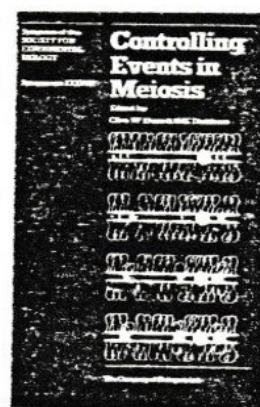
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