BSDB Newsletter

No 25

Spring 1992

Includes autumn meeting registration form

BSDB Newsletter
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In this issue

CHAIRMAN'S REPORT

Whether or not a new parliament means new initiatives for the funding of science in Britain, it is clear that an increasing fraction of science funding is going to come from European community funds. EC project grants are already providing a significant source of funds for developmental biology - and the new 'Human capital and mobility ' programme of the EC promises to provide a number of postdoctoral fellowships in biology that is at least comparable with those available from the European Molecular Biology Organization. But the EC programmes have yet to prove the efficiency of their resource allocation, or their user friendliness. By comparison, the EMBO is a model of bureaucratic efficiency, and perhaps more importantly, has a network of close working contacts with active scientists that is probably unparalleled by any other international organization.

The BSDB at present supports EDBO - the embryonic European Developmental Biology Organization. Our sister society the BSCB supports ECBO, the equivalent cell biology organization. Despite the valuable contribution of EDBO and ECBO, it is my guess that for most BSCB and BSDB members, EMBO is the more immediately relevant of the European organizations. Its meetings, workshops and fellowship programme have made a major impact on the areas of cell and developmental biology with which I am most familiar.

The need can only grow for a single European voice that commands respect among a wide range of molecular and cell biologists, and that can speak with authority at European level. Perhaps it is time that the EMBO should extend its formal embrace to include cell and developmental biology, just as molecular biology itself has infiltrated these same areas. A single European organization speaking for all might even be able to relieve Brussels of some of the administrative burden of dispensing its funds - by capitalizing on the systems that are already in place at EMBO. I would be most interested to hear from those who have strong feelings as to whether the BSDB should continue to support EDBO

as an independent organization, or encourage it to put its weight behind EMBO as a single european voice.
Moving on to society business: The science at our Lancaster 'Insertional Mutagenesis' meeting last autumn was excellent - thanks to Mary Bownes, David Finnegan and Alan Shirras who organized it. But too few people came. A sign of hard times, perhaps, but also an indication that our publicity - principally through this newsletter, is not reaching the right people at the right time. We are adopting more aggressive poster campaigns for future meetings, and if registrations for the Sussex meeting are anything to go by, they are proving highly effective.
The other major activity sponsored by the society during the year was the Developmental Biology Training Course at Oxford. Eleven of our members were among the 24 participants from ten countries, ranging from Czechoslovakia to Uruguay. Putting on the course is a huge commitment for the organizers, but at the end of the day, the response of the students suggested that it had all been worthwhile. We hope to run the course again in 1993, but details of the organization have yet to be worked out. Jane Davies, Michael Whittaker and Jim Smith retire from the committee this year. We thank them for their efforts on behalf of the society. Michael Whittaker will remain as an observer on our committee, as he now joins the BSCB committee. We hope that this will promote efficient communication between the two societies. New committee members elected at the AGM are Jack Price (NIMR,Mill Hill), a developmental neurobiologist, Vernon French, (Edinburgh) who works on insect segmentation, and Alistair Hetherington, (Lancaster), who studies the development of Fucus eggs.

FORTHCOMING BSDB MEETING

AUTUMN 1992, Kingston Polytechnic: The Developmental Basis of Inherited Disorders

This Autumn's meeting is organised by Audrey Muggleton-Harris and will take place at the Kingston Hill site of Kingston Polytechnic from the 10th to 12th of September 1992. Understanding of the developmental basis of inherited disorders is progressing at an increasingly rapid pace and the meeting provides a timely opportunity to hear the latest from a number of internationally recognised workers in this field. The meeting will also be used as an opportunity for the BSDB to extend their thanks to Anne McLaren for all that she has done for the Society over the years.
The full programme of the meeting can be found on the following pages; the registration form and Poster abstract form are in the Centre Section of the Newsletter. Since space is limited, preference will be given to BSDB members who indicate that they will attend the entire meeting

WEDNESDAY 9 SEPT:

Arrivals/registration desk open from 5:00pm - 9:00 pm
Pre-ordered buffet/dinner at 6:30 pm

THURSDAY 10 SEPT:

9:15 am **A L Muggleton-Harris** (St. Thomas's Hospital, London)
"Opening remarks, introduction to scientific session"

CHAIRPERSON: M Hooper (University Medical School, Edinburgh)

9:30 am **R M Winter** (Northwick Park Hospital, London)
"Limb defects: animal models and candidate genes"

10:10 am **P Goodfellow** (ICRF, London)
"Defects in sex determination"

10:50 am COFFEE/TRADE EXHIBITION

11.10 am **R Lovell-Badge** (NIMR, Mill Hill)
Sox genes and inductive events during development of the nervous system

11:50 am **N Hastie** (Western General Hospital, Edinburgh)
"Wilms tumour - Aniridia Syndrome?"

12:30 - 1:45 pm LUNCH

CHAIRPERSON **A McLaren** (MRC Mammalian Development Unit, London)

1:45 pm **R Williamson** (St. Mary's Hospital Medical School, London)
Opening Speaker: The Molecular Genetics of Dysmorphic Syndromes.

2:25 pm **W Wood** (John Radcliffe Hospital, Oxford)
"Development regulation of haemoglobin and its disorders".

3:05 pm **P Scambler** (St. Mary's Hospital Medical School, London)
"DiGeorge syndrome and other dysmorphologies caised by monosomy 22q11"

3:45-4:50 pm TEA/TRADE EXHIBITION

4:05 pm **J Stirling** (Kings College, London)
"The developmental and biochemical regulation of Tay-Sachs hexosaminidase deficiencies".

4:45 pm **N Caplan** (St. Mary's Hospital Medical School, London) "The prospects for gene therepy for cystic fibrosis and the implication of treatment for other inherited disorders".

5:20 pm CONCLUSION OF SCIENTIFIC SESSIONS

6:30 pm DINNER

8:00 pm POSTERS/WINE RECEPTION hosted by Dean of St. George's Hospital Medical School, London.

FRIDAY 11 SEPT:

CHAIRPERSON: **A L Muggleton-Harris** (St. Thomas's Hospital, London)

9:00 am **C Readhead** (California Institute of Technology, Pasadena) Myelin basic protein deficiencies and development, diagnosis and gene therapy of the genetic defect using the"Shiverer" mouse". (Opening Speaker)

9:40 am **M H Johnson** (Department of Anatomy, Cambridge) "A transgene model for the study of HLA function".

10:20 am **J D West** (Centre for Reproductive Biology, Edinburgh) "Mouse models of genetic effects that are confined to the fetus or membranes".

10:50 am COFFEE/TRADE EXHIBITION

11:20 am **M Hooper** (Department of Pathology, Edinburgh) "Modelling genetic disease in the mouse by germline manipulation using embryonal stem cells".

12:00 am **R Beddington** (Centre for Genome Research, Edinburgh) "Chimeras to analyze mutants".

12:40 pm - 1:40 pm LUNCH

CHAIRPERSON: **J D West** (Department of Obstetrics and Gynaecology, Edinburgh)

1:40 pm **A McLaren** (Mammalian Development Unit, London) "Imprinting: maternal effects in mammals". (Opening Speaker).

2:30 pm **B M Cattanach** (MRC Genetics Division, Didcot) "Studies on imprinting in mice".

3:10 pm **A Surani** (Cambridge Research Station, Babraham)
"Genomic imprinting: Developmental consequences, mechanisms and human genetic disorders".

3:50 pm TEA/TRADE EXHIBITION

4:10 pm **S Rastan** (CRC, Harrow)
"Recent advances in the molecular genetics of the mouse X-chromosome".

4:50 pm **P Burgoyne** (MRC Mammalian Development Unit, London)
"The consequences of X-chromosome monosomy in female mice".

5:30 pm CONCLUSION OF SCIENTIFIC SESSIONS

6:30 pm **WINE RECEPTION HOSTED BY BSDB** in honour of **Dr A Mclaren**

7:30 pm **BSDB SOCIETY DINNER**. Recognition of Dr A McLaren's retirement and contribution to the Society.

SATURDAY 12 SEPT:

CHAIRPERSON: **M H Johnson** (Department of Anatomy, Cambridge)

9:00 am **E G D Tuddenham** (CRC, Harrow)
Opening Speaker:"The mutations causing haemophillia and progress towards gene therapy for their correction".

9:40 am **M Patton** (St. George's Hospital Medical School, London)
"Cytogenetics and inherited human genetic disorders".

10:30 am **A Handyside** (Hammersmith Hospital Medical School, London)
"Genetic defects in early human embryos".

11:10 am COFFEE

11:20 am **V Bolton** (King's College Hospital, London)
"Preimplantation diagnosis of inherited defects in human embryos".

12:00 pm **D K Griffin** (The Galton Laboratory, London)
"Novel cytogenetic techniques dianosing genetic disease in human preimplantation embryos".

12:40 pm **Audrey L Muggleton-Harris** (St. Thomas's Hospital, London)
CONCLUDING REMARKS

BSDB AUTUMN MEETING: Advice to Delegates

KINGSTON POLYTECHNIC - KINGSTON HILL CENTRE

Kingston Hill is the second largest site of Kingston Polytechnic, and the only residential campus. The centre is situated on the A308 between Kingston and Putney, approximately 8 miles from Central London.

LOCAL INFORMATION

Kingston Hill Centre is situated within easy reach of Richmond Park and Wimbledon Common. Kew Gardens and Hampton Court are within the immediate vicinity. The town of Kingston upon Thames, a short drive or bus ride away, has a large shopping centre, a daily market, and many restaurants offering a variety of cuisines.

TRAVEL INFORMATION

From Central London

EITHER 1. By District Railway (Underground) to Putney Bridge (Wimbledon Route) and thence by No. 85 bus to Kingston. Walk back along the same side of the road to the first gateway which is the entrance to Kenry House.

OR 2. By Southern Railway from Waterloo to Putney, and thence by No. 85 bus from Putney High Street, corner of Upper Richmond Road to Kingston Polytechnic - Kingston Hill Centre, then proceed as Route 1.

OR 3. By Southern Railway from Waterloo to Kingston, and thence by No. 85 bus from Cromwell Road to Kingston Polytechnic - Kingston Hill Centre. Kenry House is the second gateway further on and on the opposite side of the road.

The journey from most of the London termini takes about one and a quarter hours by the first two routes and rather longer by the third. The journey from Waterloo to the Polytechnic takes about 50 minutes by the second route.

From Heathrow Airport

Take the GREEN LINE BUS 726, or 727 from airport to Kingston Town Centre then red bus 85, or taxi (2 miles) to Kingston Hill Centre.

OR the RED BUS 285 to Kingston Town centre, then 85 red bus, or taxi (2 miles) to Kingston Hill Centre.

From Gatwick Airport

Take the British Rail train from Gatwick Station to Victoria, then the GREEN LINE COACH 718 from Victoria to gates of Kingston Hill Centre.

FUTURE BSDB MEETINGS

SPRING 1993, Univertsity of East Anglia: Signals, Polarity and Adhesion in Development

The 1993 Spring Symposium will take place at the University of East Anglia in Norwich from the 13th to 16th of April and is being organised by Tony Brown, Philip Ingham and Alfonso Martinez-Arias. As previously announced, the meeting will be concerned with different aspects of cell communication; the new title which the organisers have chosen reflects the differening perspectives from which from which this topic will be addressed. Most of the invited speakers have already confirmed their participation: the provisional programme is as follows:

Patterning of Cell Assemblies:
P. Simpson (Strasbourg),D. Hartley (London), M. Bate (Cambridge), H. Skaer (Cambridge), J. Williams (South Mimms)

Cell Adhesion:
R. Kemler (Freiburg), N. Brown (Cambridge), C. ffrench-Constant (Cambridge), F. Watt (London)

Localised Cell Interactions:
A. Martinez-Arias (Cambridge), A. Brown (New York), L. Dale (Birmingham), J. Smith (London),P. Besmer (New York)

Cell Behaviour:
K. Howard (New Jersey), R. Keynes (Cambridge), E. Wieschaus (Princeton), C . Goodman (Berkeley)

Signal Transduction:
E. Hafen (Zurich), L. Zipursky (Los Angeles), S. Courtniedge (Heidelberg), P. Bryant (Irvine), N. Perrimon (Harvard), P. Sternberg (Caltech)

Cell Polarity:
P. Nurse (Oxford), K. Simons (Heidelberg), J. White (Cambridge), E. Knust (Köln)

The Main **BSCB Symposium** which will run concurrently with the BSDB Symposium will be on **Intracellular Vesicle Transport**. In addition to the main Symposia there will also be parallel sessions on Microtubule Motors (BSCB), Programmed Cell Death (BSCB/BSDB) and Applications of Optical Microscopy, Image Anlaysis and Embryological Databases (BSDB).

AUTUMN 1993, venue to be announced: Retinoic Acid in Development

This two day meeting is being organised by Malcolm Maden and will include sessions on: "Generation and Reception of Retinoic Acid Signals", "Retinoic Acid and the Primary Body Axis", "Retinoic Acid and the Specification of the Central Nervous System"," "Limb Development and Regeneration" and Retinoic Acid and Axonal Outgrowth in the Developing Nervous System". Prospective speakers include: P. Chambon, E. Boncinelli, T. Jessell, E. de Robertis, G. Eichele, N. Holder, D. Duboule, & J. Brockes.
Further details of this meeting will be given in the next edition of the Newsletter.

SPRING 1994 The Evolution of Developmental Mechanisms Edinburgh University

The Spring 1994 Symposium which is being organised by Peter Holland, Michael Akam and Greg Wray will have as its focus conservation and innovation in developmental mechanisms. A detailed programme has yet to be compiled. The BSCB Symposium topic will be **The Cell Biology of Cancer**. Further information about both of these meetings will appear in the Autumn edition of the Newsletter.

CALL FOR MEETINGS PROPOSALS

The BSDB committee would welcome suggestions from members of possible topics for future meetings of the Society. Proposals will be considered for both the Spring Symposia and the Autumn meetings. In addition to the present format of the latter, the committee will also give favourable consideration to proposals for more specialised workshops devoted, for instance, to a particular technique or organism. Suggestions for parallel sessions for the 1994 Spring Symposium would also be especially welcome.
If you think that you have a good idea for a topic that might fit one of these categories, please get in touch with the Meetings Secretary, Rosa Beddington; her address may be found on page 16 of this Newsletter.

OTHER MEETINGS OF INTEREST

American Society for Developmental Biology Symposium 1992 The Molecular Basis of Morphogenesis

This year's ASDB Symposium will be held at the University of Washington, Seattle from June 24th to 28th. There will be sessions on "Gametes", "Roots, Flowers & Leaves", "Early Organogenesis" "The Central Nervous System", "Heart", "Somites", "Limbs", "Skeleton", "Epithelia" and "Lymphoid Tissues". Concurrent Minisymposia on"Inheritance Patterns during Fertilisation" and "Molecular Embryology and the Study of Lung Development" will take place on June 24th prior to the beginning of the Main Symposium. Further details and Abstract and Registration forms may be obtained from:

Mr. P. Kropp,
Conference Management,
Universtiy of Washington Extension,
5001 25th Avenue NE, GH-22,
Seattle, WA 98195
Tel: 0101 206 543 0888

The deadline for registration is **May 29th**

The Molecular Basis of Development

This meeting, which marks the inauguration of the **King's College Developmental Biology Research Centre (DBRC)**, will take place at King's on the 8th and 9th of July 1992. The programme comprises the following speakers:
T. Jessel (New York), M. Raff (London), S. Wilson (London), M. Maden (London), J. Smith (London), A. McMahon (New Jersey), L. Parada (Frederick), L. Mahadevan (London),R. Lovell-Badge (London), J. Gurdon (Cambridge), L. Wolpert (London), R. Patient (London), G. Felsenfeld (Bethesda), M. Greaves (London) M. Akam (Cambridge) K. Dudley (London) P. Rigby (London).
Prospective participants are required to register for the meeting but attendance is free of charge.
Further details may be obtained from:
Kylie Miles at the DBRC, Division of Biochemical Sciences, King's College, 26-29 Drury Lane, London WC2B 5RL
Telephone: 071 836 8851

The 10th John Innes Symposium: The Chromosome

This year's symposium takes place at the University of East Anglia from the 7th to the 10th of September and will comprise four sessions: "Lower Order Structure, Origins of Replication and Partitioning", "Higher Order Structures", "Epigenetics", "Knowledge Emerging from the Mapping & Sequencing of Genomes".
The 15th Bateson Memorial Lecture will be delivered by Professor Frank Stahl.
Further details of this meeting may be obtained from:
The Symposium Secretary,
John Innes Instituite,
John Innes Centre,
Norwich Research Park,
Colney,
Norwich NR4 7UH

First Robertson Symposium: Life and Death in the Nervous System

This meeting takes place between the **3rd and 5th of September** at the **University of Glasgow**. Topics and speakers will be:
Genetic Dissection of Neuron Function:
A. Ghysen, M. Freeman, K. Kaiser, H. Jockusch
Regeneration and Transplantation of Neurons:
J. Kapfhammer, J. Nicholls, M. Noble, A. Bjorklund, J. McCulloch
Axon Targeting & Developmental Signals
C. Goodman, B. Muller, A. Prochiantz, C. Shatz
Growth Factors, Neuronal Proliferation and Differentiation:
G. Dechant, S. Landis, R. McKay, R. Horvitz, H. Monyer.
Further details can be obtained from:

Mrs. L.A. Alexander,
Administrator to the Robertson Symposium,
c/o Dept. of Botany,
University of Glasgow,
Glasgow, G12 8QQ

MEETING REPORT

BSDB/BSCB Joint Symposium Sussex University, April 1992

Hats off to Sandy MacGillivray and Robert Whittle for overseeing the smooth running of the recent joint BSDB/BSCB spring meeting held at the University of Sussex! With contributions from as far afield as Moscow and California covering everything from gastrulation to transcription and actin binding proteins there was enough to keep the 700 plus participants busy well into the evenings. It was gratifying to find overlap between the two societies such that one was never left wanting for an interesting session.

The first morning's BSDB gastrulation session was highlighted by Chuck Ettensohns elegant analysis of the induction of skeletogenic cell fate in the sea urchin embryo. William Jeffrey explained how cytoplasmic reorganisation between the time of fertilisation and the first cleavage of the ascidian embryo is required for correct gastrulation, and just before lunch Ray Keller had us believing, with the use of a video, that bipolar, mediolateral directed protrusive activity is "the only show in town" left to explain gastrulation movements the *Xenopus* embryo.

In the afternoon I confess to defecting to the BSCB: Herbert Jäckle and Mike Levine discussed the dissection of promoter elements that control the striped expression patterns of the pair-rule genes *hairy* and *even-skipped* in the *Drosophila* blastoderm, while Rob White described his lab's promising efforts to isolate genes under the control of the homeotic selector genes by cloning Ultrabithorax binding sites using an immunopurification technique.

The scheduled first days festivities were concluded with an excellent plenary lecture by Eddy De Robertis on the dorsal lip specific homeobox gene *goosecoid* and its effects on gastrulation in *Xenopus*. I am able to relate that unscheduled first day festivities carried on until last orders. My only real grumble with Claudio Stern, Peter Rigby and the other session organisers concerned the vast choice of interesting speakers they had assembled, with four excellent sessions running in parallel each day! On the second day, in addition to the main Symposia there was a Teleost extravaganza that opened with Chuck Kimmel giving an overview of gastrulation movements and the power of cell lineage tracing in the Zebrafish embryo. Stefan Schulte-Merker then discussed the pattern of expression of the Zebrafish *brachyury* gene products and the remarkable finding that the embryonic lethal mutation *ntl* (notochord and tailless) is due to disruption of this gene. The emphasis after lunch was placed on analysis of the expression in the Zebrafish embryo of genes shown to be important in the development of other organisms with talks on the fish *forkhead* orthologue (Uwe Strähle), *Pax* genes (Steffan Krauss) and *Hox* and *Krox-20* expression (Trevor Jowett).

The final day of the meeting was highlighted by Nobel laureate David Baltimore who accomplished the impressive feat of presenting a staggering amount of data on the activity of Nuclear Factor Kappa B without losing the attention of his audience!

Attendance on all days was good and interaction was greatly helped by the pleasant surroundings of the campus plus the unexpectedly clear blue skies and daily sunshine. The only apathy shown during the meeting was that of the BSDB membership whose lack of attendance at the AGM suggests that they assume that the society neither wants nor needs feedback from its members. I, however, do not believe this and would like to thank the executive for holding meetings of this quality and for making funding available for graduate students allowing them to attend.

Patrick Blader
ICRF Developmental Biology Unit
Oxford

CENTRE SECTION

This 'Centre Section' is designed to be removed without damaging the rest of the Newsletter. It contains a form for subscribing to **Development** (below), a membership application form, together with Registration and Abstract forms for the Kingston meeting.

Development

Members of the BSDB are entitled to a £7 reduction in the subscription price to Development. The cost to non-members is £92 but for members it is only £85. This price includes the casebound Supplement volume which for 1992 will be the proceedings of the Gastrulation Symposium. The computer that handles subscriptions seems to have some difficulty in keeping track of individuals who are entitled to discounts, so if your renewal request asks for £92, simply mark the renewal "BSDB society discount", and save £7.00.

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To: **Development**
Portland Press,
P.O. Box 32,
Commerce Way,
COLCHESTER,
Essex CO2 8HP.
U.K.

Please enter my subscription to **Development** for 1992. I undertake not to pass my subscription copies on to a library. I enclose a cheque for £85 made payable to Portland Press Ltd.

Signature: .....

Name: .....

Addresss: .....

.....

.....

Other COB Journals, including BioEssays, the Journal of Cell Science and the Journal of Experimental Biology, are also available at reduced rates. JCS is £70, JEB is £65 and BioEssays is only £44. To subscribe, write to the above address with your cheque and a signed undertaking that you will not pass your individual copy on to a library.

APPLICATION FOR BSDB MEMBERSHIP

Full Name: Dr/Ms/Mr .....Degree(s): .....

Professional Address: .....

.....

.....

.....Post Code: .....

Research Interests: .....

.....

I wish to apply for Ordinary (£10)/ student (£5) membership of the Society (delete as applicable)
Applications must be endorsed by two Society members who should sign below:

.....(Print Name): .....

.....(Print Name): .....

Please return this form, together with the completed Banker's Order (below) to the Society Secretary: **Prof. P. Thorogood, Institute of Dental Surgery, Eastman Dental Hospital, 256 Gray's Inn Road, London WC1X 8LD.**

For Society's Use

Received:	.....	Acknowledged:	.....
Subscription:	.....	Mailing List:	.....
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To: The Manager,

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Please pay to the **British Society for Developmental Biology**
Account no: 00867675
Barclays Bank plc,
Oxford Circus Branch (20-64-88)
15 Great Portland Street,
LONDON W1N 6BX

the sum of £ (pounds) on October 1st 1992 and on the same day each year succeeding unless this instruction is altered in writing by me

Signature: ..... Account No: .....

Name: ..... Date: .....

Address: .....

.....

.....Post Code: .....

Registration and Booking Form

British Society for Developmental Biology Meeting

Sept 9th-12th (2½ days), on

THE DEVELOPMENTAL BASIS OF INHERITED DISORDERS

*(Please use **BLOCK LETTERS** and **USE ONE FORM** for each person)*

NAME: ..... (MALE/FEMALE) .....
(*Prof/Dr/Mr/Mrs/Miss/Ms)
ORGANISATION:.....

ADDRESS: .....

..... POST CODE: .....

TELEPHONE NO: ..... FAX NO: .....

REGISTRATION FEE *(Please tick appropriate amount and make cheques payable to Kingston/BSDB meeting)*

BSDB Members	£35:00	☐
Non BSDB Members	£50:00	☐
Graduate Students (Members of BSDB)	£25:00	☐

ACCOMMODATION AND MEALS

	9th September	**10th September**	**11th September**	
Bed and Breakfast (Student accomodation for 179 people)	£18:30 ☐	£18:30 ☐	£18:30 ☐	Total ☐
Campus "residential" accomodation (30 places)	£49:48 ☐	£49:48 ☐	£49:48 ☐	Total ☐
Meals (inclusive, coffee, lunch, tea and dinner)	____	£18:50 ☐	£18:50 ☐	Total ☐
BSDB Society Dinner (in honour of Dr Anne McLaren). *N.B. the cost of normal dinner will be deleted from this cost by conference officers at time of meeting.*	____	____	£25:00 ☐	Total ☐
Evening buffet can be provided for those arriving on the 9th Sept. *(It will be dependent on at least 25 people requiring this service)*	£11:50 ☐	____	____	Total ☐

Vegetarian meals can be provided if requested.

If you wish to present a poster, please enclose abstract (single spaced area 15cm x 12cm height). Speakers should present an abstract of their talk.

Send your registration form and abstracts to:

Prof. A.L. Muggleton-Harris, Kingston/BSDB meeting, Division of Obstetrics and Gynaecology, St Thomas's Hospital, Lambeth Palace Road, London, SE1 7EH. Tel: 071 922 8105 Fax: 071 620 1227

BRITISH SOCIETY FOR DEVELOPMENTAL BIOLOGY
AUTUMN MEETING KINGSTON POLYTECHNIC
SEPTEMBER 10TH-12TH 1992

ABSTRACT FORM

Absracts from invited speakers and for poster presentations will be included in the Conference Abstract book. Pleases type your abstract in the box below in camera-ready format to be leghible when photoreduced so that four abstracts fit on an A4 page. Type using a 12 point typeface. Title in **CAPITAL** letters, names and addresses of authors in **Upper and lower case** (indicate authors attending the meeting with an*). Leave a blank between addresses and the main text. **DO NOT** overlap the lines forming the box. Poster boards are 1m by 1m; vertical extensions above and below the board are permissable. Attachment will be using Velcro which will be supplied.

Please return your abstract (2 copies, not folded) with your registration form and payment to: Prof. A. Muggleton-Harris, Division of Obstetrics and Gynaecology, St. Thomas's Hospital, Lambeth Palace Road, London SE1 7EH, to arrive not later than **June 30th 1992**

BOOK REVIEWS

A History of Regeneration Research. Milestones in the Evolution of a Science

C. E. Dinsmore, Editor.

Cambridge University Press, Cambridge. 1991.
228 Pages £30/$54.95 (Hardback, ISBN 0-521-39271)

This book results from essays presented at a symposium in the winter of 1988 but as a historical perspective the 3 year lag in publication is relatively unimportant. We are encouraged to step back from the frenzied and often obsessive research practices of modern developmental biology to reflect upon the past achievements of regeneration biologists. This serves to illustrate the progression of scientific thought through the ages but perhaps more importantly it also serves as a conceptual framework for what is likely to be a highly enlightening area of future research. Dinsmore argues that space constraints prevented material other than the selected highlights from being included. I felt this to be a little disappointing since a chapter, say perhaps by Jeremy Brockes, on current research and future perspectives would have rounded off what was a rather enjoyable read.

Basically, regeneration is presented in a chronological order, from deliberations on whether injured cavemen understood that their fingers could not grow back through to a nice concluding chapter by Wolpert on the origins of gradient theories. Sandwiched in between are chapters covering many of the major players including Réaumur, Trembley, Spallanzani and Morgan. As I read through, I often stopped to wonder what it must have actually felt like in those early days when people refused to believe that regeneration could occur. Like many current history of embryology books, there are also extended considerations, viewed from the regenerative perspective, on the preformation versus epigenesis debate. Generally, the treatment was quite good with extensive quotes from primary source material. Throughout, we are presented with detailed background descriptions putting the various players into perspective. However, I would have liked, bearing in mind the historical content, more discussion of the political and religious climate of the times and how influential these scientists were upon it.

A short but nice chapter on the dependence of regeneration on nerves, ends up with two very sweet quotes on the use of newts as research material. A chapter on the effects of electricity, although entertaining, appears to be more a review of general bioelectricity phenomena rather than on regeneration. There is also an interesting chapter on the origin of blastema cells and I am sure that many students new to regeneration pose many of the very same questions before they are filled in with the details.

Each chapter is highly readable but I would advise in reading only one chapter at a time. To rush through would destroy much of the book's enjoyment since it is very much about historical ideas that need time for contemplation. I am sure, as for Spemann's "Organizer" book or Hamburger's historical embryology book, that some very bright molecular biologists, in their own way, will currently be regenerating the ideas and experiments presented within the pages of this volume !

David Tannahill
ICRF Developmental Biology Unit
Oxford

The making of a fly - the genetics of animal design

Peter A. Lawrence

Blackwells 1992. 228 pages £16.95 Softback (ISBN 0-632-03048-8)

The deadline for this review was drawing close, so I decided to takethe book with me on holiday to the Canaries. It looks and feels really nice on initial inspection, making you want to read it. The bright cover attracted much attention from my fellow passengers on the flight over. My neighbour on the plane, a surfer heading out to catch some waves, asked how I was enjoying my read - he'd seen the movie starring Jeff Goldblum and thought it was really cool!

As per Lawrence's instructions in the Preface I began at the beginning and set out to read the book cover to cover. I didn't especially enjoy chapter 1 (essentially an Introductory chapter), mostly because it took me a while to warm to the style of writing, which whilst mostly very clear is occasionally a trifle disjointed and often a little condescending. However, the subsequent 4 chapters discussing the laying down of a *Drosophila*'s basic body plan are the golden core to the book and were rivetting. For some while there has clearly been an empty niche for an up to date review text on *Drosophila* patterning specifically for 3rd year undergraduates and non-fly developmental biologists (maybe even for flyboys too!). Until this book, that niche has been only partly filled by the excellent chapter in Jonathan Slack's 'From Egg to Embryo,' (2nd Edition) but I think now this new text will become the natural leader in the field. As a chick/mouse person with only a superficial understanding of *Drosophila* genetics, I thoroughly enjoyed the way in which the reader is gently coaxed through systems as confusing as the bithorax and Antennapedia complexes - I was especially proud to predict successfully the outcome of PL's brain-teaser *Ubx- Abd-A+ Abd-B-* double mutant. Even within these chapters I had some small gripes. First, I felt PL was making me work harder than necessary for my knowledge - often you need to thumb back or forward a few pages to find a figure referred to in the text and the legends are seldom adequate on their own to comprehend fully a figure without the text. This gripe is minor and might easily have been overcome by a slight re-jigging of text and figures. Second, I wondered whether PL's technique of using one or two favourite genes as paradigms of how a whole gene family operates, whilst helpful for clarity of concepts, might tend to mislead by exaggerating the role of his chosen genes.

After the pleasures of the *Drosophila* body plan chapters, I found Chapter 6, on positional information and polarity, a bit tedious - as PL says himself the field is "irritatingly abstract". This chapter was only partly rescued towards the end by some interesting anecdotal stuff on growth and shape and size.

The last two chapters - 7 & 8 - on *Notch* and the *achaete-scute* complex and on the eye were good, clear and up to date, and whilst both these fields, particularly *Drosophila* eye development, have recently been reviewed ad-infinitum in all the good journals, they are both very useful additions to a text of this sort.

One of the best bits of the book was the section of historical short stories at the end. Given PL's instructions on how to read his book, I wasn't sure whether he would allow me to read these until I'd read the other chapters; nonetheless, I flicked to them whenever I got distracted from the main chapters and found them captivating. It is exciting to know the gossip behind the headline papers and they made understanding the science in the core chapters significantly easier.

I thought this book was great, almost certainly as good as the movie! I'm sure that many students and teachers of developmental biology will agree with me in the coming year or so.

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but on the other hand.....

Biological Asymmetry And Handedness
Ciba Foundation Symposium 162 (G.R. Bock & J. Marsh eds.)

J. Wiley & Sons, 1991. 327 pages, hardback (ISBN 0-471-92961-1)

This is the book of the meeting (not the film in this case!). It is presented in Ciba style, with sections of semi-edited discussion and, as usual, these are mostly enlightening (and even amusing as you can almost hear colleagues spluttering or declaiming in their familiar ways), but they can veer towards the precious and irritating. The 16 chapters address asymmetry and handedness at all biological levels, from the L and D-amino acids to the evolution of lateralization of human language. I suspect that all of us (except perhaps an even more dilligent reviewer) are going to dwell on some chapters and skip over others.

All (well, nearly all) of the chapters are clear and readable, and many are leavened with analogy and anecdote. On the first read, I was readily able to improve my modest grasp of the links between L-amino acid α-helix and supramolecular structure, and between human neuroanatomy and the various manifestations of handedness. Then I settled down in the middle of the book to ponder over that neglected aspect of development - the handed asymmetry of body structure - in chapters featuring the ciliates, the nematodes and molluscs, and the amphibians and mammals.

Almost all metazoan phyla are regarded as bilaterally symmetrical, and we worry (those of us who worry at all about spatial organisation in development) about the establishment of their anterior-posterior and dorsa-ventral axes. If asked for the thifd body axis we would almost respond 'medial-lateral' not 'left-right'. However most, perhaps all, of these bodies are really asymmetrical (with the two sides departing from mirror symmetry) and, furthermore, they are handed (with the left differing characteristically from the right). In some animals, such as gastropod molluscs and flatfish, this handedness is a very obvious feature of morphology, but in the others (from the nematode to most vertebrates), it is more cryptic but nonetheless pervasive, affecting the size, position and shape of internal organs. (Sadly for the molecular genetics pathway to understanding, handedness in *Drosophila* seems to be restricted to a rotation of the male genitalia (ouch!) and "some kind of spiral in the gut" - perhaps we just haven't looked hard enough).

There are related evolutionary and developmental questions over the primacy of a symmetrical body plan. The longest chapter in the book argues from the related 'minor phyla' (very unfamiliar - what's a chaetognath to a Sussex graduate!) and from the fossil record (glorious solutes, cornutes and mitrates!) that we came from profoundly asymmetrical ancestors, and slowly evolved our apparent bilateral symmetry from the tail forewards. I spent a long and enjoyable time on this chapter but, ultimately, I've failed you since I cannot give a crisp summary of how a very distant radially symmetrical ancestor fell over to invent dorsoventrality or how our distant ancestor tripped again to fall on its right side so that the "saggital plane of a human is perpendicular to that of a beetle"!

To return to development - handedness means that , in some way (at some stage, to some extent) cells at corresponding positions on either side of the saggital plane are not just different, but are specified as left and right in relation to the other body axes. Several of the chapters explore mechanisms which could orientate and deliver the cues. Early developmental events may estab-

lish a bilateral symmetry (eg. the perpendicular axes of the frog blastula or the *Drosophila* blastoderm), which is then "tweaked" by a graded or discrete left-right cue. The assumption that symmetry is primary seems reasonable for current vertebrates (despite their distantly asymmetrical origins) but things may be very different in some invertebrates. Slightly oblique mitoses in the very early nematode embryo place cell pairs in different positions, leading to different interactions and very different cell lineages in the construction of the left and right half-worms.

Handedness is an old new puzzle and has previously provoked a thoughtful review about every decade and a half. There are some very venerable clues, like the evidence from Spemann's lab (in 1919) of reversal of asymmetry (situs inversus) in 50% of the right (but not the left) twins developing from constricted newt eggs. There are also interesting new results coming from many experimental systems, from ciliates to mammals. Progress is being made and, overall, this book is a fascinating and thoughtful account of it - although I did wince at the half page which cheerily claims that all will be made clear by the cloning of the mouse *iv* gene (which gives situs inversus in 50% of mutant homozygotes)!

The Summing Up valliantly maintains that "all this leftness and rightness is a "unitary phenomenon". Hmmm! Never mind the amino acids and the brains: I'm far from convinced that what underlies handedness even in *Xenopus* and *Caenorhabditis* is "going to turn out to be universal" Perhaps here, as elsewhere, universality depends on how broadly you define the "basic" in "basic mechanism"

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'Cytokines'. M.J.Clemens

Bios Scientific Publishers. Medical Perspectives Series. 1991. 122 pages, softback £11.95. (ISBN 1 872 748 70 8)

This book sets out to introduce the cytokine field to undergraduates and medical students and in this it largely succeeds, by reviewing how they are produced, how they work and the biological and medical significance of their actions, without going into any particular class of cytokine in any detail. It is a short, easy-to-read introduction.

The first chapter deals quite well with the problem of defining a cytokine and describes the various classes of molecule that this term now encompasses. My one comment here is that, since defining a cytokine depends upon the distinction between a cytokine and a hormone, I would have included a definition for a hormone in the glossary at the back of the book.

I have some reservations about the tables and illustrations in the book. Many of the former are very useful, for example summarising chromosomal locations of different cytokine genes and the sizes and dissociation constants of cytokine receptors. However others were simply lists that added nothing to the text and these I did not find useful. I also found the quality of the illustrations poor, both in a graphical sense and in some cases in their information

content. For example, the figure illustrating the action of IL-3 in haematopoesis really could have been omitted: the statement that IL-3 affects all stages would have sufficed.

In a field such as cytokines, which encompasses a wide area of biology that is moving forward so very quickly, inevitably, a book of this length and scope has its limitations. For research workers it has limited usefulness and will rapidly become sufficiently out of date to be untrustworthy as a statement on the state of knowledge in the field. For example, some information about IL-8 is included and the existence of interleukins up to 11 is mentioned. However, this is more a statement about the cytokine field than about the book itself.

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Cell to Cell Interaction
eds. M.M. Burger, B. Sordat, R.M. Zinkernagel

S. Karger, Basel, 1990. 252+ xix pages. Hardback, $86.10. (ISBN 3-8055-5322-6)

The Swiss publishing house, Karger, hosted a "rich symposium" [Zinkernagel's description] in its centennial year, 1990, to promote luminary-to-luminary interaction. This book publishes their papers, corralled by the most elastic of bands under the three heads, Neurobiology, Oncology, and Immunology. The latter two sections also have "Workshop" reports, and the book is concluded by the Karger Prize Lecture delivered by J-P Thiery. The material is extraordinarily broad but also sometimes overlapping, as diverse as the seriousness with which the articles seem to have been prepared. I was enthused most by the following contributions: that of Massagué and colleagues, summarising the transforming growth factors (whose all-pervasiveness in the animal organism has its counterpart in the book itself, permeating many other papers); by Kerbel and Theodorescu's account of clonal dominance (an ingenious hypothesis based on clear experiment, suggesting that metastatic variants bearing up-regulated TGF–α receptors may have their growth stimulated by the TGF–α produced by their non-metastatic brothers); by Le Douarin's scholarly piece on cell lineage analysis during neural crest ontogeny, leaning heavily on *in vitro* colony culture approaches adopted by haematologists (how profitable to have two separate academic interests!); and by Clarke's brilliant pedagogy on the biology and molecular basis of self-incompatibility (not afraid to remind us paupers, who know little beyond the vertebrates, of the basics of gymnosperms). Other articles include "Area-code molecules of lymphocytes" (Springer, in the Neurobiology section!); relationships between retinoids and TGF–α (discussed by Sporn and Roberts); a summary piece on Extra-Cellular Matrix (Ruoslahti); an update on retinal growth cones including some interesting results on how transplanted peripheral nerves can guide them (Aguayo et al); two straight-down-the-line accounts of respectively T lymphocyte and B lymphocyte differentiation (Owen, Melchers); and a much more tentative foray into the possible interplay between mast cells and neurones which may eventually shed some light on neuro-immunomodulation (Stead and Bienenstock).15% of the book (4 chapters on Immunology) is given over to what Zinkernagel generously describes as a ping-

pong game between Mitchison and Cohn (a "scholarly, if not scholastic, dispute", he kindly calls it). At issue is whether Mitchison's (inaccurately-referenced) overview of T, B and antigen-presenting cell interactions can face down the iconoclasm of Cohn (on MHC Restriction:- "the 'peptide revolution' has no conceptual basis and, therefore, it is all dressed up but has nowhere to go"). Readers of this who are immunologists will probably divide 1:1:1 into those who find it unreadable: a good laugh: really stimulating -- but it assumes far too much inside knowledge to educate the general reader.

There is no real coherent thread running through this volume. To get a proper view of the topics itcovers you would do better to read the latest general reviews by the authors noted above (it will be much less harsh on your wallet). But then you might not be stimulated to undertake the exercise at all unless the articles are brought together between two boards as they have been here. And neither will a Do-It-Yourself compilation stimulate you to imagine the rich and very luminous Symposium dinners the participants clearly enjoyed.

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