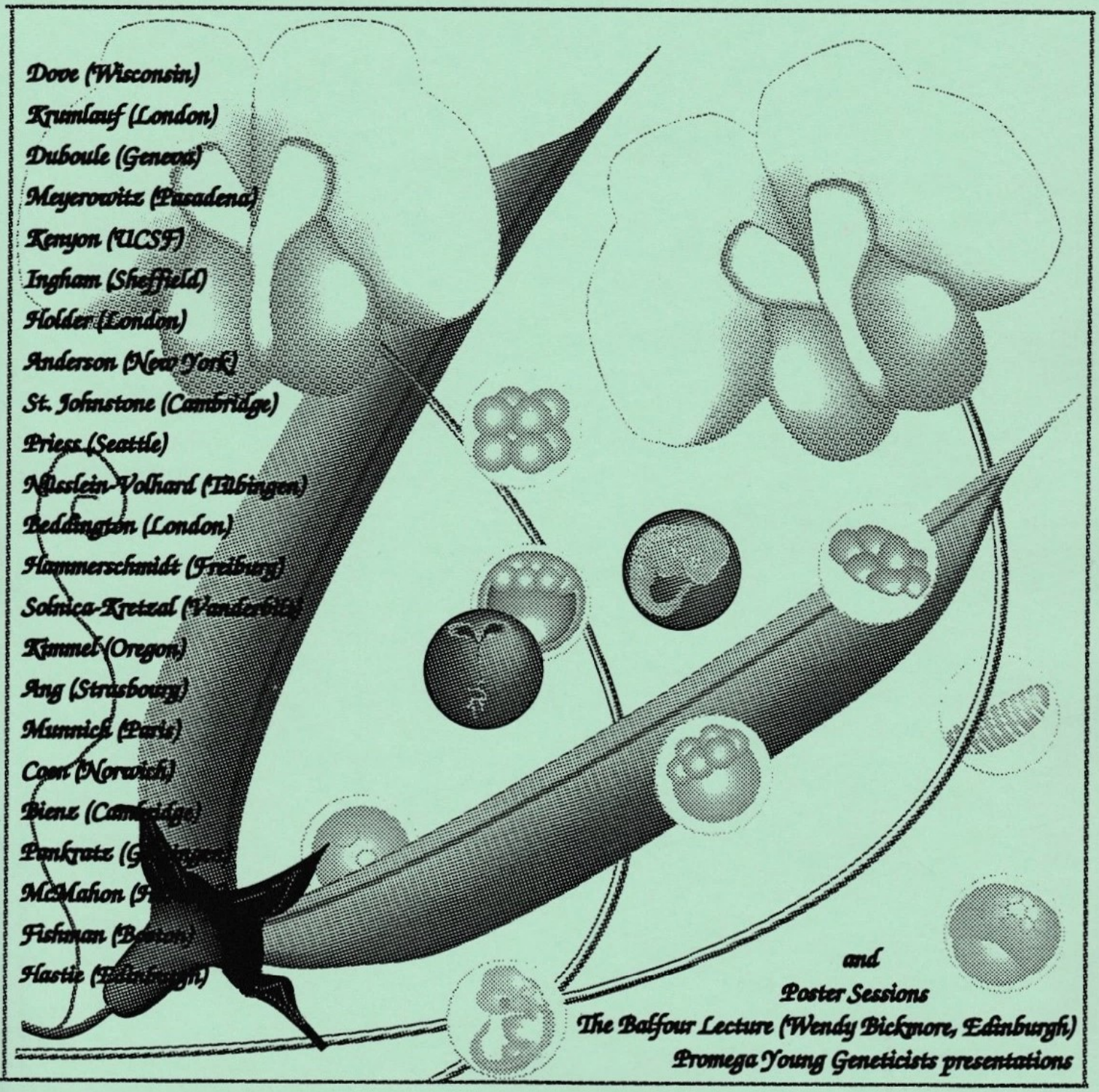
BRITISH SOCIETY FOR DEVELOPMENTAL BIOLOGY

AUTUMN 1996 - No. 34

SPRING MEETING 1997 with THE GENETICAL SOCIETY
18-21st MARCH - UNIVERSITY OF WARWICK

THE GENETIC CONTROL OF DEVELOPMENT



BSDB Newsletter
No. 34 Autumn 1996

GENETIC CONTROL OF DEVELOPMENT

University of Warwick

The **Registration Form** can be found in the 'detachable' **Centre Section** of the Newsletter. The full scientific programme appears on page 4-5.

CHAIRMAN'S HOMILY

This year has, once again, seen two successful and enjoyable meetings. The Spring meeting, held jointly with the BSCB, concentrated on regeneration and was held in York, while the Autumn meeting, in Bath, had Positional Information as its topic. One purpose of the Bath meeting was to recognize the enormous contributions to developmental biology made by Lewis Wolpert, and a report of this meeting can be seen elsewhere in this Newsletter.

The Positional Information meeting was the first BSDB meeting to boast a special T-shirt, and I have to confess a particular interest here, because it was Cheryll Tickle and I who had the idea for the T-shirts, who designed them, and who had them made. We ordered a hundred of the things, and I bet the Secretary of the Society a pint of beer that we'd sell the lot at £7 each. However, despite my best efforts, including a shameless plug at the Roman baths, some fifty remain unsold.

So, as Christmas approaches, are you short of a present for that special someone? Or perhaps a colleague applied to late to go to the Bath meeting but still wants a memento of what was a great meeting? Help is at hand. The BSDB is proud to offer, for a limited period only, Positional Information T-shirts in sizes L and XL for only £5 each, or £4.50 for a souvenir edition signed by the Chairman of the Society. Those present at the meeting will remember that the shirt depicts a chick wing, tastefully picked out in blue, white and red, the colours of the French flag. If you think you're smaller that L, don't worry, just stick the shirt in the washing machine. And if the colours look a bit bright, apply the same treatment. This did the trick with mine.

At the BDSB Committee meeting at the end of November, the committee sat down again to plan our symposia for the next few years, and information about what is coming up in the immediate future is presented elsewhere in this Newsletter. It's very important to arrange things well in advance, so provisional plans are in place for topics and venues for 1997, 1998 and even 1999. But for the year 2000 we have no plans at all, so if you have a good idea for a meeting, and want to be the person who organizes the first BSDB symposium of the 21st century, get in touch with me or with Ian Jackson.

Rosemary Akhurst moves to the USA soon, and is therefore resigning from the Committee. On behalf of the Society I should like to thank her for all the work she has done for the BSDB, particularly recently in our protracted discussions with EDBO. I should also like to take this opportunity to thank other erstwhile committee members, particularly Phil Ingham, whose contributions have not previously been acknowledged here.

Finally, as always, we are immensely grateful to the Company of Biologists for their continuing generous support of the BSDB.

Oh, and if you want a T-shirt, write to me - Jim Smith (see address page)

From the Treasurer

TRAVEL GRANTS

The BSDB awards three types of grants to its members, with preference given to graduate students and postdocs.

BSDB Spring and Autumn meetings
These are the only UK meetings for which there is BSDB support, and grants cover basic travel and conference expenses (but not conference dinners). We are currently able to fund demand but, if numbers increase, preference will be given to members who present posters (but see comment on foreign meetings).

Practical courses
Support of up to £300 is available for these courses and, at the moment, all applicants are funded. If more than about 8 members a year apply, however, a selection procedure will be introduced.

Foreign meetings
This is the category for which there is greatest demand and we cannot fund everyone. Rather than give members grants that are too small to be useful, current policy is as follows:
* About £400 will be available every month and awards will be made, as a contribution towards travel expenses, at the end of the month.
* No more than two people from one Department or one person from a group will be awarded a grant to go to a particular meeting, and preference will be given to members presenting work. If the Treasurer has no obvious grounds for assigning a grant to an excess of applicants from a group, the lab head will be asked to decide who will receive the money.

To apply for a travel grant, members should write to the **Treasurer** giving details of the proposed visit and the breakdown of the amount of money requested. They should enclose with the application a letter of support from their supervisor or laboratory head and, if apppropriate, the abstract of the poster or talk they intend to present.

Please note: no-one will be awarded more than one travel grant per year.

Louie Hamilton Fund

There is a small amount of money available from the Louie Hamilton Fund to provide travel support for handicapped members. Applicants should contact the **Treasurer**.

Goodbye - the few of you who have still not upgraded the subscription rate from £10 to **£20** will receive this Newsletter, but nothing further unless you contact the treasurer, **urgently**.

Jonathan Bard, Treasurer

MEETING REPORT

"The Molecular Basis of Positional Information"

The 1996 Autumn meeting of the BSDB was held to celebrate the significant contribution to the study of developmental biology made by Lewis Wolpert. Delegates from around the world came together to celebrate the advances made in the field since Lewis Wolpert published his landmark "French Flag" model of positional information in 1969.

The day dawned uncommonly bright and warm for the end of a British summer as we descended upon the Bath University campus and, with the final programme reading like a "Who's who" of developmental biology, it promised to be an exciting meeting.

Developmental systems from flowers and sea squirts to butterflies and mice were discussed, ensuring that there was something both familiar -and unfamiliar- for all. The meeting began with positional information. Hans Meinhardt produced a highly visual presentation, employing computer simulated models to predict the outcome of interaction between signals that differed in both site and time of expression. The first sessions also included various talks concerning patterning in the *Drosophila* embryo. Peter Lawrence showed pictures of an embryo with both wingless and engrailed knocked out. These genes are involved respectively in anterior/posterior

specification of the segments and the embryo appeared as a round ball of tissue devoid of segment polarity. Herbert Jackle reported on the control of expression of a gap gene by a complicated activation versus feedback repression cascade which ensures that the gene is expressed in a single stripe along the body. The second day promised some exciting discussion from the frog folk, which was provided by Doug Melton and Jim Smith presenting different view points on the involvement of short and long range signalling in the mesoderm induction process. Doug Melton, working on veg-1, indicated that there was no evidence for long range signalling, while Jim Smith showed data indicating that activin had a long range effect. Further sessions provided some interesting news concerning limb development, with the appearance of new mutants, such as the Hoxb1 insertional mutant Sasquatch, from Rob Krumlauff's lab, so called because of extra hind limb digits (Big foot!) and the triple Hoxd 11, 12 and 13 knockout from Denis Duboule which is missing the phalanges but still has metacarpal bones, the phenotype being more severe in the hind limb than the fore limb. Brigid Hogan also reported a limb phenotype seen in the BMP-4 -/+ heterozygous mutant which is manifested as an extra preaxial digit.

A common thread running through many of the lectures was the conserved function of many genes between species. Jonathan Cooke discussed the similar role of the chick and the *Xenopus* veg-1 in specifying the ventral axis whilst Julian Lewis indicated similar functions for *Xenopus* and chick delta homologues in neurogenesis, namely ensuring that some cells in the ventricular layer remain as progenitors by a process of lateral inhibition. Cliff Tabin provoked lively debate with his ideas about evolutionarily conserved patterning of an appendage in three axes.

After Wednesday's stimulating discussion, Bath council provided a civic reception, giving us the opportunity to view the Roman Baths by moonlight and indulge in one of the Romans' favourite beverages (wine, in case you didn't guess!). Thursday night saw a highlight of the conference - a cabaret based on a reminiscence of the life (and quotes) of Lewis Wolpert. With the acting skills of some of the best known faces in developmental biology, it could hardly fail to keep the audience entertained.

As a graduate student, I was particularly encouraged by the enthusiasm for the subject that was apparent in all those taking part. In his closing remarks, Lewis Wolpert urged us to "look backwards into the future" leaving many of us with the hope that we can make some contribution to the next 30 years of positional information.

Imelda McConnell,
Dept of Anatomy & Developmental Biology,
U.C. London.

Lewis at Bath.

(Ed. Many of my generation - undergraduates in the late 1960s/early 1970s - perhaps particularly appreciate Lewis. We are 'in' Development directly because of his ideas of Positional Information and his enthusiasm, and we have enjoyed the insight and the arguments over the years. As he would say (and did say in Bath), "terrific - how right I was!")

Spring Meeting: University of Warwick, 19-21 March 1997

'GENETIC CONTROL OF DEVELOPMENT'

Wednesday 19 March

1. GENOME ORGANISATION.
Chair: E.Meyerowitz (Pasedena)

9.00 M.Ashburner (Cambridge): **Lessons from understanding the *Drosophila* genome.**
9.30 W.Dove (Madison): **Phenotype-driven mouse genetics, 1997.**
10.00 C.Nusslein-Volhard (Tubingen)**: Zebrafish genetics.**

10.30 *Tea/coffee.*

11.00 The Balfour Lecture
W.Bickmore (Edinburgh)**: Putting the genome under the microscope.**
12.00 R.Krumlauf (London): **Hox genes and regulation of vertebrate segmentation.**
12.30 D.Duboule (Geneva): **Regulation of Hox gene function in the mouse.**

13.00 *Lunch.*

2. AXIS FORMATION
Chair: N.Holder (London)

14.30 Kathryn Anderson (Berkeley): **Forming the D/V axis in *Drosophila*.**
15.00 D.St.Johnston (Cambridge): **Mechanisms for early axis specification in *Drosophila*.**
15.30 J.Priess (Seattle): **Specification of cell fates in the early *C. elegans* embryo.**

16.00 *Tea/coffee.*

16.30 M.Hammerschmidt (Harvard): **D/V axis formation in zebrafish.**
17.00 R.Beddington (London): **Genes involved in early pattern formation in the mouse embryo.**

Thursday 20 March

3. GENE REGULATION/CELL HERITABLE STATES
Chair: P.Ingham (Sheffield)

9.30 E.Meyerowitz (Pasadena): **Control of cell division and gene expression in developing flowers.**
10.00 C.Kenyon (San Francisco)**: Pc-like genes *in C. elegans*.**

10.30 *Tea/coffee.*

11.00 M.Bienz (Cambridge): **Transcriptional silencing of homeotic genes in *Drosophila*.**
11.30 M.van Lohuizen (Amsterdam): **Role of BM11 as a regulator of lymphoid development and member of a mammalian Polycomb complex.**

12.00 *AGM and lunch*

4. INDUCTION
Chair: R.Beddington (London)

14.00 L.Solnica-Kretzel (Boston): **Genes involved in the specification and morphogenesis of the zebrafish axial mesoderm.**

14.30 C.Kimmel (Eugene): **Mutational studies of embryonic patterning in zebrafish.**
15.00 P.Ingham (Sheffield): **The Hedgehog signalling pathway in vertebrates and invertebrates.**

15.30 *Tea/coffee.*

16.00 S-L.Ang (Strasbourg): **Role of organizer-specific genes in patterning the mouse neural tube.**
16.30 A.Munnich (Paris): **Fibroblast growth factor receptor mutants in humans.**
17.00 Promega Young Scientist Talks:
17.00 A.Moore (MRC HGU, Edinburgh): **New functions of the Wilm's tumour suppressor gene revealed by YAC transgenic analysis.**
17.20 Manchester winner
17.40 Cambridge winner

Friday 21 March

5. ORGANOGENESIS
Chair: K.Anderson (Berkeley)

9.30 E.Coen (Norwich): **Origin of floral asymmetry in *Antirrhinum*.**
10.00 M.Pankratz (Gottingen); **Cell signalling at the ectoderm-endoderm boundary during *Drosophila* gut development.**
10.30 A.McMahon (Harvard): **Cell-cell interactions in the sex-specific development of the reproductive system.**

11.00 *Tea/coffee*

11.30 M.Fishman (Charlestown): **Fashioning heart form and function: genetic steps in zebrafish.**
12.00 N.Hastie (Edinburgh): **Multiple roles for the Wilm's tumour gene, WT1, during organogenesis.**

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Topics for Future Society Meetings

Information about future meetings is given on page 6.

One of the major tasks of the BSDB Committee is to select topics for future meetings and then to ensure that these meetings are well organised and successful. It is obviously crucial that meetings are supported by the members of the Society, and we always welcome suggestions for future topics. If you have an original idea for a major Spring Symposium, a smaller two day Autumn meeting, or for a one day workshop, please get in touch with the **Meetings Secretary, Ian Jackson.**

CALLING GRADUATE STUDENTS!

Remember, the Graduate Reps on the BSDB Committee are **M.Louise Smith** (from the Akam lab in Cambridge) and **Marcus Hicks** from (the Bevan lab in Manchester). Their job is to communicate Graduate Student Views (good or bad) to the BSDB Committee, so please do not hesitate to contact them - see the addresses page at the back.

FUTURE BSDB MEETINGS

Autumn 1997, University of Cambridge.

'Genomic Imprinting: its role in development and disease'

This meeting will be organised in Cambridge by **Anne Ferguson-Smith, Wolf Reik, Paul Schofield** and **Azim Surani**, will be held at Corpus Christi College, University of Cambridge from **4th - 7th September 1997.**

The programme will include talks given by invited speakers, in addition to presentations by graduate students/postdocs selected from the abstracts. There will also be a poster session.

INVITED SPEAKERS include:
D. Barlow (Amsterdam, Netherlands)
N. Brockdorff (London, UK)
B. Cattanach (Didcot, UK)
H. Cedar (Jerusalem, Israel)
A. Feinberg (Baltimore, USA)
B. Horsthemke (Essen, Germany)
F. Ishino (Yokohama, Japan)
R. Jaenisch (Boston, USA)
J. Mann (Duarte, USA)
T. Mukai (Osaka, Japan)
S. Tilghman (Princeton, USA)

Further information, including a full programme and registration details, will appear in the next Newsletter. The deadline for abstracts and registration will be July 4th 1997, but participants are encouraged to register early as the meeting is limited to 150.

Further details and abstract forms can be obtained from:

Mrs Dianne Styles
The Babraham Institute
Cambridge CB2 4AT, UK
(after February 1997)

SPRING 1998, University of Lancaster.

'Developmental Pathways'

This meeting will be organised by **Paul Sharpe, Anthony Graham & Phil Ingham.** It will be held jointly with the BSCB the University of Lancaster from **31st March-3rd April 1998**, inclusive.
Developmental biologists are begining to make links between cell signalling and gene transcription in developmental processes. At the same time, cell biologists are making rapid process in unravelling the complexities of transduction of signals within cells. This meeting aims to bring these two fields together by concentrating specifically on developmental topics where progress is being made in understanding the interactions between different molecules involved in a "developmental pathway". Links between cell signalling, extracellular matrix, signal transduction and gene transcription will be covered in a developmental context. Speakers will include cell and developmental biologists grouped into sessions with common themes covering the cell biology of different signalling pathways and their roles in development.
Further details will appear in the next Newsletter

OTHER DEVELOPMENTAL MEETINGS

NEURAL CREST DEVELOPMENT

There will be a meeting on **Neural Crest Development** on **18th December 1996 (Hurry, hurry)** at St. George's Hospital Medical School, London.
This is part of the **Anatomical Society** Winter Meeting.
Speakers: N.Le Douarin, M.Sieber-Blum, A.Davies, J-P.Ortonne, K.Jessen, A.Copp.

For further details, contact:

Dr. M.Benjamin, Programme Secretary, Anatomy Society,
Anatomy Unit, The School of Molecular & Medical Biosciences,
University of Wales College of Cardiff, PO Box 911, Cardiff CF1 3VS.

Tel: 01222 874 000 ext 5041; Fax: 01222 874 486; e-mail: benjamin@cardiff.ac.uk

DEVELOPMENT OF THE NERVOUS SYSTEM - NORMAL AND ABNORMAL

The Spring 1997 meeting of the **Developmental Pathology Society** will be **on Development of the Nervous System- Normal and Abnormal**. It will be held in Birmingham on **3rd-4th April 1997**

For further details, contact:

Professor A.Copp,
Neural Development Unit, Institute of Child Health,
30 Guilford St, London WC1N 1EH.

Tel: 44-171-829-8893; Fax: 44-171-813-8494; e-mail: A.Copp@ich.ucl.ac.uk

Annual Congress of the Societe Francaise de Biologie du Developpement
DEVELOPMENT & EVOLUTION

The twentieth Congress of the Societe Francaise de Biologie du Developpement will be held at the "Villagium" in Dourdan (about 40 kms south of Paris) on **29-31st May 1997** on the subject: **"Development and Evolution".**

Sessions will include: gene evolution and morphogenesis; signalling pathways in development; cell lineage analysis; adaptation in development. Sessions will include invited speakers as well as speakers chosen from the abstracts, plus posters for all participants to present their data.

Deadline for sending abstracts is **March 15th 1997**. All those interested are invited to attend. Sessions will be in French and English.

For further information, contact:

Professor Maurice Wegnez, Congres SFBD,
Batiment 445, 91405 Orsay cedex, France.

Tel: 01 69 15 72 87: Fax 01 69 15 68 02. e-mail: wegnez@pop.u-psud.fr

9th Tenovus-Scotland Symposium
EUKARYOTIC GENE BIOLOGY

The 9th Tenovus-Scotland Symposium on Eukaryotic Gene Biology will be held in the University of Glasgow on **9th-11th April 1997**
Sessions will be: Comparative Genomics; Repetitive DNA; DNA Repair and Cancer; Membrane Signalling; Mitochondria and Cell Biology of the Nucleus.
Registration deadline: 1st Jan 1977.

For further details and booking forms, **e-mail: Tenovus@udcf.gla.ac.uk**
or contact:

Professor Roger Adams,
Davidson Building, University of Glasgow, Glasgow, G12 8QQ, Scotland.

Fifth International Congress of VERTEBRATE MORPHOLOGY

The Fifth Congress of the International Society for Vertebrate Morphologists will be held at the **University of Bristol** on **12-17th July 1997**.
All those interested in vertebrate morphology and related areas are invited to attend.

For further information, contact:

Professor J.M.V.Rayner,
School of Biological Sciences, University of Bristol,
Woodland Road, Bristol BS8 1UG, UK

Fax: 44 117 925 7374: e-mail: ICVM97@bristol.ac.uk
www: http://www.bio.bris.ac.uk/icvm.html

ISDB/ SDB International Congress of Developmental Biology

July 5-10, 1997. Snowbird, Utah, USA

Program

Nobel Symposium
E.Lewis, C.Nusslein-Volhard, E.Wieschaus.

Plenary Sessions
Establishing asymmetries; Neural development and patterning; Signalling pathways in development; Pattern formation in development and evolution.

Concurrent Symposia
Lineage analysis and cell fate; Genetic regulation of organogenesis; Gene regulation in development; Localisation of determinants; Eye development; Signalling pathways in development; Floral development; Development and evolution; Inductive interactions in development; Patterning the developing body axes; Germline development; Cell type specification;

Concurrent symposia will include invited speakers as well as speakers chosen from the abstracts. Plus there will be poster sessions for all participants to present their data. Evening workshops will be organized on special scientific topics, techniques, education, minority affairs, funding opportunities, international interactions, science in developing countries.

For more information, and request for registration/abstract package please contact:
Ida Chow, Executive Officer, Society for Developmental Biology USA,
9650 Rockville Pike, Bethesda, MD 29814-3998, USA.

FAX 301-530-7049; SDB home page: **http://sdb.bio.purdue.edu**

CENTRE SECTION

This "Centre Section" can be removed without damaging the rest of the Newsletter. It contains a form for subscribing to Development (below), a membership application and banker's order form, and the information and Registration form for the Spring Symposium Meeting at Warwick University.

Development

Members of the BSDB are entitled to a reduction in the subscription price to 'Development'. The general 1997 personal subscription is £169 but, for BSDB members, it is (only) £151. Please respond to the questionnaire on 'Development' price on page 15.

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To: **Development**
The Company of Biologists Ltd,
Bidder Building,
140 Cowley Road,
Cambridge, CB4 4DL UK.

Please enter my subscription to **Development** for 1997. I undertake not to pass my subscription copies on to a library. I enclose a cheque for **£151** made payable to "The Company of Biologists Ltd".

Signature: .....

Name: .....

Address: .....

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Other CoB Journals, including BioEssays (£63), the Journal of Cell Science (£110) and the Journal of Experimental Biology (£112), are also available at reduced rates. 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.

Genetical Society/BSDB Joint Spring Meeting, University of Warwick
19-21 March 1997

Genetic Control of Development

INFORMATION SHEET

Venue
The meeting will take place in the University of Warwick. Scientific sessions will be held in the **Arts Centre**, and the social programme will be in the **Rootes Building**.

Accommodation
Accommodation will be availabe for all meeting participants in **single rooms** on the University campus. The rates for B&B are given on the registration form.

Programme
The provisional scientific programme is attached. Note that all sessions will be open to members of both societies. There will be no parallel sessions. Special programme items, such as the Balfour Lecture and Promega Young Geneticists' presentations, plus the poster sessions, will be open to all. The scientific programme will begin at **9 a.m. promptly** on the first day. To be sure of completing registration formalities in advance of the session, participants who plan to stay in Warwick should ideally arrive on the **Tuesday evening**. Others should aim to arrive by no later than 8.15 on the first morning, or they may miss the start of the scientific programme.

Registration Details
Pre-registration is **essential** for attendance, and must be completed by 18 January 1997 to avoid a **late registration penalty** of £20. All registrants must complete the official form (attached), and must **remit in full** to cover all accommodation and meeting costs when submitting their form. Registrants will receive an acknowledgement and receipt, including details of how and when to arrive in Warwick.

Meeting Charges
Members of BSDB or the Genetical Society can purchase an extremely attractive **all-inclusive package** including housing, subsistence and registration for the entire meeting. For those who wish to attend only part of the meeting, or who do not require the full housing and meals facilities offered, registration is payable which covers the costs of tea, coffee, abstract & programme booklet and social programme, plus the cost of conference organization and hire of university facilities. Registrants choosing this option can purchase any aditional meals and accommodation they require on an 'a la carte' basis, but please note that all such requests must be made at the time of pre-registration, and cannot be arranged in Warwick at the last moment. Registrants who are not members of either society can either apply to join well in advance of 18 January 1997, so as to be able to take advantage of the Member Package, or else must pay the non-member rate Meeting Fee plus accommodation/meals as required. Note further that there are **discounted rates** available for **students**, whether members or non-members, and that an extended version of the Member Package allows you to purchase a 1997 subscription to ***Nature Genetics*** at a very attractive price not offered elsewhere (you cannot use this option if you have already subscribed to the journal for 1997). **Note payment details** as shown at the foot of the Registration Form.

Social Programme
As well as full bar facilities, there will be a **conference dinner** on the Thursday evening, followed by a **Ceilidh**. The conference dinner is included in the Member Package, but others wishing to attend the conference dinner must indicate and pay for this when submitting their registration form. The conference dinner is subsidised by sponsorship, but participants who do not wish to attend can purchase a regular cafeteria dinner (or neither!) if they wish.

Accompanying Persons
Accompanying persons must complete a **separate registration form**. All housing and meal costs must be paid at the time of pre-registration, although they are exempt from Meeting Fees. They may attend the social programme except for the conference dinner, unless purchased separately, but may not attend the scientific sessions, and will not receive an abstract/programme booklet.

Posters and abstracts
All participants at the meeting, including invited speakers, are welcome and indeed encouraged to present a poster to the meeting. Poster sessions are meant to be of **general interest**, i.e. will provide an opportunity to members of both societies to present work on any topic in genetics or developmental biology, not just on the 'Genetic Control of Development'. Poster presentations from students who are members of BSDB or the Genetical Society, and who have not been awarded a higher degree at the time of their registration for the meeting, will be eligible for the special **poster awards**. First prize (sponsored by BSDB) will be a trip to the USA to attend the US Developmental Biology meeting in Utah, July 1997 (all travel and meeting expenses covered). Second prize (sponsored by *Trends in Genetics*) will be £100 cash, plus a one-year subscription to *TIG*. To present a poster, please note the details on the accompanying page, and send your abstract **electronically** to arrive no later than **18 January 1997**. Abstracts can be accepted only by e-mail or on diskette. If you have indicated on your registration form that you are a student, you will automatically be considered for these awards if you submit an abstract and present a poster. However, if you do not submit an abstract by the deadline we cannot guarantee that there will be space for you to display a poster!

DEADLINES: The deadlines for registration, payment and abstract submission, plus the late registration penalty, may seem severe. However, please bear in mind that this will be a large international meeting organized without a professional secretariat. Given the complexities of accommodating members of two separate societies, plus non-members who also wish to participate, we hope you will understand the reasons for these requirements, and will be able to comply.

REMEMBER!!

REGISTRATION & PAYMENT DEADLINE: 18 January 1997
Late Registration Penalty: £20

POSTER ABSTRACT DEADLINE: 18 January 1997

Genetical Society/BSDB Joint Spring Meeting, University of Warwick
19-21 March 1997

Genetic Control of Development

HOW TO SUBMIT AN ABSTRACT

Abstracts should be sent **ELECTRONICALLY**, preferably by e-mail (as attachments or else in a text-only message) to

sanna.lehtinen@uta.fi

or failing that on diskette, to

Sanna Lehtinen
Institute of Medical Technology
University of Tampere
PO Box 607
33101 Tampere
Finland

Please identify your abstract in the following way: if sent as an e-mail message, please write Warwick - followed by your surname (add initials if it is a common name), as the subject field of the message. If sent on diskette or as an attached file, please name the file as Warwick - (your surname), or a suitable abbreviation thereof if required by your word processor. Any common word-processing package or e-mail system is acceptable, and if there are any problems in transmission or decrypting we'll get back to you.

Deadline for RECEIPT of abstracts: 18 January 1997. Please do NOT enclose your diskette or a hard copy of your abstract with your registration form, which must be sent to a separate address.

Abstracts should be not more than 300 words, to fit inside a rectangle 16 cm across by 8 cm deep. Figures and diagrams must be capable of being printed on a black-and-white laser printer, and must fit within the allowed space.

The abstracts will be made available to all participants in booklet form at the meeting. The text will not normally be retyped, so authors are responsible for the quality of presentation of the abstract. Any errors will appear in the reproduced text. Please draw our attention to any special characters or symbols, as these sometimes differ when transmitted or converted electronically.

Indicate, in the first line, the title and authors in capital letters. The name of the author who is responsible for the poster should appear first. Then indicate the laboratory where the research was done, the city, postcode and country.

Poster boards will be available of 1 metre square and velcro/adhesive tape and pins will be provided. The poster should start with the *poster number* (issued on receipt of the abstract) and title followed by the names and addresses of the authors. Remember, in a crowded room it is difficult to read small text and results are best presented graphically or pictorially with the minimum of words.

Genetical Society/BSDB Joint Spring Meeting, University of Warwick, 19-21 March 1997

Genetic Control of Development

REGISTRATION FORM

Each participant and each accompanying person should complete a SEPARATE FORM

Surname ..... First name(s) .....
Title ..... Male/Female Student/Non-student
Institution .....
Address .....
.....
.....
Telephone ..... Fax .....
E-mail (BLOCK LETTERS PLEASE) .....
Special requirements (e.g. vegetarian) .....

Please complete the following matrix. If you are a member of the GS or BSDB and wish to attend the full meeting, purchase of one of the Member Packages earns you a significant saving. The Member Package includes all costs associated with the meeting. The extra option includes a subscription to Nature Genetics at an extremely attractive special rate. Note that a separate meeting fee is charged to non-members, or to members who do not wish to purchase the complete package. This includes the cost of tea, coffee, abstract & programme booklet and social programme, and covers the cost of conference organization and hire of university facilities. In past years, this has been included in the day rate for GS spring meetings.

	Tues 18 Mar	Wed 19 Mar	Thurs 20 Mar	Fri 21 Mar	TOTAL
Bed & Breakfast (£22 per night)					
Lunch (£7)					
Dinner (£8)			*		
Conference Dinner (£20 full, £15 student)*			*		
Registration (for non-members, or for members not purchasing a complete Member Package) £55 full member, £25 student member, £85 full non-member, £40 student non-member					
Member Package (3 nights full-board, including conference dinner and meeting fee) £165 full, £130 student					
Member Package as above, PLUS a one-year subscription to Nature Genetics £290 full, £219 student					
Late registration penalty (after 18 January 1997) £20					

* please select EITHER normal dinner or conference dinner

GRAND TOTAL	

PLEASE CHECK IF ANY OF THE FOLLOWING APPLY

Invited Speaker ❑ GS Member ❑ GS Committee Member ❑ BSDB Member ❑

BSDB Committee Member ❑ Accompanying person ❑ I wish to present a poster ❑

Payment should be sent by sterling cheque, eurocheque or bank draft drawn on a UK bank. Credit cards are not accepted. Cheques should be payable to 'University of Warwick'. Please return this form with full payment to: **Dr E A Jones, Department of Biological Sciences, University of Warwick, Coventry CV4 7AL, England, UK. Fax +44-1203-523061 or +44-1203-523701.**

APPLICATION FOR BSDB MEMBERSHIP

Full name: ..... **Title** ... **Degrees** .....

Professional address: .....

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Tel; Fax, e-mail: .....

Research interests:.....

I wish to apply for Ordinary (£20)/Student (£7.50) membership of the Society (delete as applicable)
Applications must be endorsed by two Society members who should sign below:

..... Name: .....

..... Name: .....

Please return this form, together with the completed Banker's Order (below) to the Society Secretary:
Prof. J.M.W.Slack, Developmental Biology Programme,
School of Biology & Biochemistry, South Building,
University of Bath, Bath BA2 7AY.

For Society Use

Acknowledged: ..... Mailing list: .....

***Please note that the graduate student rate of £7.50 is applicable **for a maximum of 4 years**, after which you must pay the full rate, regardless of your status.

To: The Manager,

..... Bank

.....

.....

Please pay to the **British Society for Developmental Biology,**
Account no: 80867675
Barclays Bank plc, P.O. Box No. 4BP,
Liberty House, 212 Regent Street,
LONDON W1A 4BP.

the sum of £ (pounds) on October 1st 1996 and on the same day each year succeeding unless this instruction is altered in writing by me. This instruction replaces any previous instruction of payment to the British Society of Developmental Biology, which should be cancelled.

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

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

Address: .....

.....

* as shown on cheque book

NOTIFICATION OF CHANGE OF ADDRESS

NAME: .....

Note that from ...../...../ 1997.
my address will be:

.....

.....

.....

Tel; Fax; e-mail:.....

(my previous address was:

.....

.....

.....

.....)

SIGNATURE: .....

Return completed form to: **Prof. J.M.W.Slack,**
Developmental Biology Programme,
School of Biology & Biochemistry,
South Building,
University of Bath,
Bath BA2 7AY.

.....

NOMINATIONS FOR BSDB COMMITTEE

The AGM of the Society will be held during the Warwick Symposium. One item will be the election of new committee members to replace those retiring in 1997.

If you wish to nominate someone for the committee, please fill in this form, including the candidate's consent, and return to the secretary, **not later than 6 weeks before the date of the AGM.**

Name: .....

Proposer: .....

Seconder: .....

I agree to serve if elected: .....

(Signature of candidate)

Return completed form to: **Prof. J.M.W.Slack**
School of Biology & Biochemistry,
South Building,
University of Bath,
Bath BA2 7AY.

BRITISH SOCIETY FOR DEVELOPMENTAL BIOLOGY

FINANCIAL STATEMENT

September 1995 - July 1996[1]

ASSETS & LIABILITIES

1994/5	**Assets**	*1995/6*
£13,696	National Savings	£14,483
£584	Treasury Stock	-[2]
£11,623	Barclays deposit a/c	£12,137
£12,197	Barclays current a/c	£4,369
£2,552	Barclays: Louis Hamilton a/c[3]	£2,552
£23,811	Abbey National savings a/c	£36,924
£34,000	Abbey National 2 year bond[4]	£34,000
£98,463	**Current Assets**	**£104,582**
£4,455	**Current liabilities** (uncashed cheques)	£691
£94,008	**NET ASSETS**	**£103,891**

EXPENDITURE & INCOME

Expenditure		**Income**		
Grants (course & meetings)	£13,516	Membership (standing order)		£13,457
Newsletter	£2,762	Membership (cheques)		£820
Small meetings	£750	Capitation fee (CoB)		£8,845
Kent meeting	£101	Royalties		£529
York meeting	£12,670	Edinburgh meeting		£80
Committee & administration	£1584	CoB grant for York		£12,835
New computers	£600	London meeting		£1,918
Membership reimbursement	£762	Gift		£100
Bank charges	£114	Interest		
Last year's uncashed cheques	£4505	Barclays current a/c	£261	
Total	**£37,364**	Barclays deposit a/c	£513	
Transfer to capital account	£6,119	National savings	£787	
Total expenditure	**£43,638**	Abbey Nat. savings	£764	
Liability: uncashed cheques	£691	Abbey Nat. bond	£2434	
		Total		£4759
Net profit on the year	**£5,428**	**Total income**		**£43,638**

Jonathan Bard
Honorary Treasurer

Notes

These accounts were prepared under the historic cost convention, in accordance with the applicable accounting standards and the Statement of Recommended Practice of Accounting by Charities. (The fee for the independent examination [£50] will be included in next year's accounts.)

1. This financial year has been shortened by 1 month to allow time for preparation and auditing of accounts in accordance with the new rules for charities.
2. This stock expired in 1994 and the capital of £500 has been paid into the Building Society a/c.
3. This is the only restricted account and no call was made on it in the financial year 1995/6.
4. This account includes £23,786, the surplus on BSDB practical courses; it and its interest are used to provide grants for members to go on courses, and £2400 was spent in 1995/6 for this purpose.

DISCOUNTED JOURNALS

JOURNALS

Remember the discounted **BSDB Member** personal subscription rates for 1997 journals!

***Development** at **£151** (instead of £169) - see the Centre Section of the Newsletter.

***BioEssays** at **£63** (instead of £73).

***Developmental Biology** at **$277** - please direct all orders and payments regarding member subscriptions to:

Academic Press Inc., Stephanie Smith/Circulation Dept.,525 B Street Suite 1900, San Diego, CA 92101-4495. USA.

***Trends in Genetics** at **156 Dutch guilders** (instead of 205) - apparently, Elsevier now invoice only in dollars in the US and guilders elsewhere!

You will have been contacted directly by Current Biology Ltd about reduced rates for
***Current Biology - £37.50 (instead of (£75)** and
* **Current Opinion in Genetics & Development - £76.50** (instead of £85)
use the form provided.

***Development, Genes and Evolution.**
(formerly Roux's Archives of Developmental Biology)
The personal subscription rate for volume 207 (1997) is **DM 168** and Springer are prepared to offer a member's reduction (to 148 DM), but only for a minimum of 50 subscribers! If you are interested, write to them.

BOOKS

Biochemical Society Symposium No 62:
Extracellular Regulators of Differentiation and Development.
For **£58.50** (instead of £65) - see 'flier'

BOOK REVIEWS

GENOMIC IMPRINTING: CAUSES AND CONSEQUENCES

Eds: R. Ohlsson, K. Hall and M. Ritzen
Cambridge University Press 1995.
ISBN 0 521 47243 1, Hardback. £45.

The history of the study of genomic imprinting can be divided into several stages. *(1) In the 1960s genomic imprinting was first recognised (in insects):* [No doubt our editor will take this as further evidence of the supreme importance of insects in the study of genetics and development!] Helen Crouse (New York) coined the term "chromosomal imprinting" in 1960 to describe the parental differences that resulted in the elimination of paternal chromosomes in the soma and germ line of the fly *Sciara*. Shortly afterwards Spencer Brown (Berkeley), Uzi Nur (Rochester) and others used this term to describe the heterochromatisation and genetic inactivation of the paternal chromosome set in male coccids (mealy bugs). *(2) In the early 1970s imprinting was shown to be relevant to marsupials:* A series of papers from Geoffrey Sharman's laboratory at Macquarie University showed that, unlike the random X-chromosome inactivation seen in eutherian mammals, the paternally derived X-chromosome was preferentially inactivated in female kangaroos. *(3) In the late 1970s it was shown to be relevant to eutherian mammals:* In 1975 Nobuo Takagi and Motomichi Sasaki (Sapporo) showed that the paternally derived X-chromosome was also preferentially inactivated in certain extraembryonic tissues of the mouse, but not in the fetus itself. This work was

subsequently confirmed and extended by several other groups, including that led by Verne Chapman (Buffalo) who, in 1977, were the first to apply the term imprinting to a difference in behaviour of paternal and maternal chromosomes in a eutherian mammal. *(4) In the 1980s the effects of imprinting in mammals were shown to extend beyond X-chromosome inactivation.* Elegant pronuclear transfer experiments performed in the laboratories of Davor Solter (Philadelphia) and Azim Surani (Cambridge) demonstrated that the completion of mouse embryogenesis requires both the maternal and paternal genomes. At the same time, cytogenetic studies by Bruce Cattanach at Harwell showed that duplication for certain chromosomes or chromosome regions had different consequences depending on whether the maternal or paternal chromosome was duplicated. Together, these two lines of experimentation explained why mammals (unlike other vertebrates) are unable to undergo parthenogenesis, identified certain chromosome regions as the sites of imprinted gene(s) and led to the construction of genetic maps of imprinted regions and the current search for imprinted genes. *(5) In the last decade there has been an explosion of interest in genomic imprinting.* Twelve imprinted genes have now been identified in mouse and several imprinted genes have been implicated in human diseases. This progress is described in *"Genomic Imprinting: Causes and Consequences"*.

This book is a well-produced, multi-author volume drawn from contributions to a Nobel Symposium held in 1994 in Stockholm. The 367 pages of text are divided into 24 chapters, which are grouped into six major topics. The chapters vary in length from 9 to 38 pages but most are between 12 and 15 pages. There is insufficient space to comment on each individual chapter and every reader will have their own favourite. They cover a wealth of ideas and information including mouse embryology, cytogenetics, clinical syndromes and tumours, X-chromosome inactivation, single genes, molecular mechanisms and evolutionary implications of imprinting. Inevitably, any book on such a comparatively young and rapidly-growing field will date very quickly and the text for this volume was drawn from a conference held in 1994. Consequently, of over 1000 references cited in the 24 chapters, only six were published as late as 1995. However, the majority of papers cited were published within a few years of the 1994 conference date and this reflects the rapid growth of this field. About 8% of the references were published in the 1970s or before, 21% in the 1980s, 35% in 1990-1992 and 35% in 1993-1994. The contributors to this volume are leading authorities in the field and have drawn together many different aspects of this fascinating topic. As such, it can be recommended as a good starting point for anyone interested in genomic imprinting, either from a research or teaching perspective. However, the field is moving so quickly that this book will probably be superseded within a few years. For some, this may be an important consideration before handing over their hard-earned money.

John D. West
Dept. of Obstetrics & Gynaecology,
University of Edinburgh.

AVIAN BIOCHEMISTRY AND MOLECULAR BIOLOGY

L.Stevens
Cambridge University Press, 1996
Hardback IBSN 0 521 45510 3

This book contains review chapters covering a wide range of subjects but focused on topics in biochemistry and molecular biology which are particularly important in birds, or are different in birds compared to other vertebrates, It is aimed at postgraduates and researchers, and I have read it as a molecular biologist who carries out research on avian systems but who is not an 'avian specialist'.

The book is divided into two sections, metabolism and molecular biology, and covers topics ranging from metabolic adaptations to the demands of flight and egg production, through to genome organisation and avian immunology.

The description of aspects of metabolism that are different in birds compared to the other vertebrates is very useful in providing detailed information on a wide range of processes, eg the secretion of nitrogen as uric acid. The discussion of modifications of metabolism to cope with specific features of birds is also detailed and interesting, eg the differences in avian haemoglobins developed to cope with both life at sea level and periods of flight at up to 8000m. My knowledge of the basic biochemistry of metabolism is rather rusty and I needed a basic biochemistry textbook to hand to follow some parts of the first section.

The section on molecular biology contains chapters on genome organisation, multigene families, avian oncogenes, development and

immunology. These chapters are rather uneven in the level of detail devoted to different sub-sections, with some topics covered in little detail but others accompanied by basic explanations, for example of alternative splicing, that you would expect to find in an undergraduate textbook. The coverage of genome organisation is already out of date - not surprising in a fast-moving field. The chapter on development is of necessity very condensed and, again not surprisingly, rapidly becoming out of date. Although the study of oncogenes owes a lot to the work of Rous and the discovery of Rous sarcoma virus, the chapter on avian oncogenes gives an illogical bias to the review of oncogenes by discussing only those identified in birds.

In general the book has a clear, consistent style due to its single authorship. This has a corresponding disadvantage in that specialist input into some chapters would have been an improvement. These criticisms apart, the book is reasonably up to date (most recent references 1994), and has a very comprehensive list of references. It will be a very useful source of information on aspects of avian biochemistry and a starting point for accessing the literature on specific topics of interest.

Helen Sang,
Development & Reproduction,
Roslin Institute, Midlothian.

CELLULAR AGING AND CELL DEATH

Eds. NJ Holbrook, GR Martin & RA Lockshin
John Wiley & Sons 1996.319 pages.
Hardback ISBN 0471-12123-1

This book sets out to address the issues of cell aging and cell death in three main themes, basic mechanisms of aging, molecular mechanisms which control senescence and finally cell death itself. As it could be reasonably argued that each of these sections merits a book of its own, this text does not provide exhaustive coverage of any subject individually. Where the book does succeed however is in presenting an up-to-date and readable summary of some fast moving research fields.

Six articles consider the mechanisms of aging, beginning with an examination of the role of genes and concluding with a concise review of the influence of other factors. The high point of this section was an excellent article about mitochondrial DNA mutations and mitochondrial encephalomyopathies. Only time will tell whether the authors are over-optimistic in implying that both normal and diseased states of aging such as cardiomyopathies, neurodegenerative disorders and an idiopathic decline in muscle strength and cognition can all be explained by mitochondrial dysfunction due to the accumulation of mutations in the genome of this organelle.

The consistently high standard of the cellular senescence articles makes this one of the most interesting areas of the book. The logical order of the individual contributions, clearly written text and effective illustrations make it accessible to newcomers to the field as well as holding the attention of experienced researchers.

My only criticisms of what is generally a well written book are with regard to the final section on cell death. Whilst generally a very good overview of conflicting opinions concerning apoptosis, this does include some rather odd statements. For example, there is certainly more than " indirect evidence for cell death genes ", most clearly demonstrated by the growing family of ICE proteases. In fact, while this whole section offers a thorough examination of the triggers leading to apoptosis there is generally less analysis of effector mechanisms.

In conclusion, this book provides not only a well written summary of most of the major research areas but also presents other more controversial opinions within the fields of cellular aging and cell death.

Elizabeth Lovejoy,
Dept of Pathology, University of Edinburgh.

BSDB COMMITTEE members

and other useful addresses

The main function of the BSDB Committee is to organise our meetings, from deciding on appropriate topics to arranging organisers and venues. If you have any ideas on topics for a good meeting, or on a good venue, don't hestitate to convey them to a committee member. The officers of the society have specific functions. Jim Smith (Chairman) keeps order; Jonathan Slack (Secretary) deals with the membership list; Jonathan Bard (Treasurer) handles the subscriptions and awards travel grants; Ian Jackson (Meetings Secretary) does most of the work in arranging meetings and deciding on venues; Vernon French (Publications Secretary) assembles this Newsletter. These Officials will be happy to answer any questions relating to their subjects.

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BSDB on WWW

We now have a web entry which will give key information about the Society. It can be found at:

http://www.ana.ed.ac.uk/BSDB

The price of *Development*

The personal subscription price of *Development* has risen steeply in recent years, and is now (1997) £151 for the special membership rate. The rise is due mainly to the increased size of the journal which entails higher production costs and postage costs. This rate is set to rise substantially again for three reasons:

1. A decision has been taken by the CoB board that *Development* shall appear twice each month from 1997. This means further considerable increases in production and postage costs.
2. The CoB board does not like too much of a gap between the institutional and personal rates, for fear that libraries will start using personal copies. The UK institutional rate for 1997 is £905.
3. The CoB board wants to build up more of a reserve to counter the uncertainty of the future, with the expectation of more electronic publishing but of lower subscription rates for electronic site licences.

In general the scientists on the CoB board argue each meeting that the personal subscription is too high, that more people would subscribe if it were lower, and that the impact factor of the journal would benefit from a higher circulation. The managers do not believe this and are understandably concerned to protect the interests of the CoB employees who produce and distribute the journals.

Apart from subscriptions, the only other significant source of income for the journal could be page charges. In the past these have not been levied but their introduction is probably the only realistic way of reducing the subscription price substantially.

This debate would be informed if we knew the views of the BSDB membership, who must represent a concentrated sample of *Development* readers. At the Spring board meeting I agreed to distribute the following questionnaire.

It would be most useful if you could fill in answers and return to me. If you prefer you can email the answers to **j.m.w.slack@bath.ac.uk**

.....

1. Do you currently subscribe to *Development* ? **Yes/No.**

2. Would you subscribe if the personal subscription rate was low enough ? **Yes/No.**

3. If so, at what level of price would you *definitely* take out your own personal subscription:
   £ 10, 25, 50, 75, 100, 125, 150

4. Would you still send your papers to *Development* if you were obliged to pay page charges ?
   Yes/No.

Prof. J.M.W.Slack,
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Bath BA2 7AY.