1996 (#30, 31, 32, 33, 34)

SPRING 1996, University of York 'Regeneration, Growth and Pattern'

The control of cell fate and cell proliferation during post-embryonic development and regeneration has traditionally been a central concern of developmental biologists. This meeting, organised by Vernon French, Jonathan Slack and Jeremy Brockes, will examine the considerable recent progress in our understanding of the processes and molecular mechanisms involved, and will cover a wide range of developing systems in vertebrates, invertebrates and plants. Details of the programme will appear in the next issue of the Newsletter

SPRING 1996: 'Regeneration, Growth and Pattern' University of York

The control of cell fate and cell proliferation during post-embryonic development and regeneration has traditionally been a central concern of developmental biologists. This meeting, organised by Vernon French and Jonathan Slack, will examine the considerable recent progress in our understanding of the processes and molecular mechanisms involved, and will cover a wide range of developing systems in vertebrates, invertebrates and plants.

Speakers:

J. Ansell (Edinburgh)
H. Bode (Irvine)
J. Brockes (London)
P. Bryant (Irvine)
S. Bryant (Irvine)
S. Carroll (Madison)
S. Cohen (Heidelberg)
L. Dolan (Norwich)
G.Eguchi (Okazaki)
P. Ferretti (London)
S. Hake (Berkeley)
A. Hudson (Edinburgh)
P. Ingham (London)
M. Jerka-Dziadosz (Warsaw)
M. Maden (London)
A. Martinez-Arias (Cambridge)
G. Michalopoulos (Pittsburgh)
P. Raymond (Ann Arbor)
E. Salo (Barcelona)
V. Schmid (Basel)
J. Slack (Bath)
D. Winton (Cambridge)

Further information including a full programme and registration details will appear in the next edition of the Newsletter.

REGENERATION GROWTH AND PATTERN University of York

The Spring 1996 Symposium, entitled "**Regeneration Growth and Pattern**", will take place at the University of York **from Wednesday 27th March to Saturday 30th March**. As usual, our Symposium will run concurrently with that of The British Society for Cell Biology.

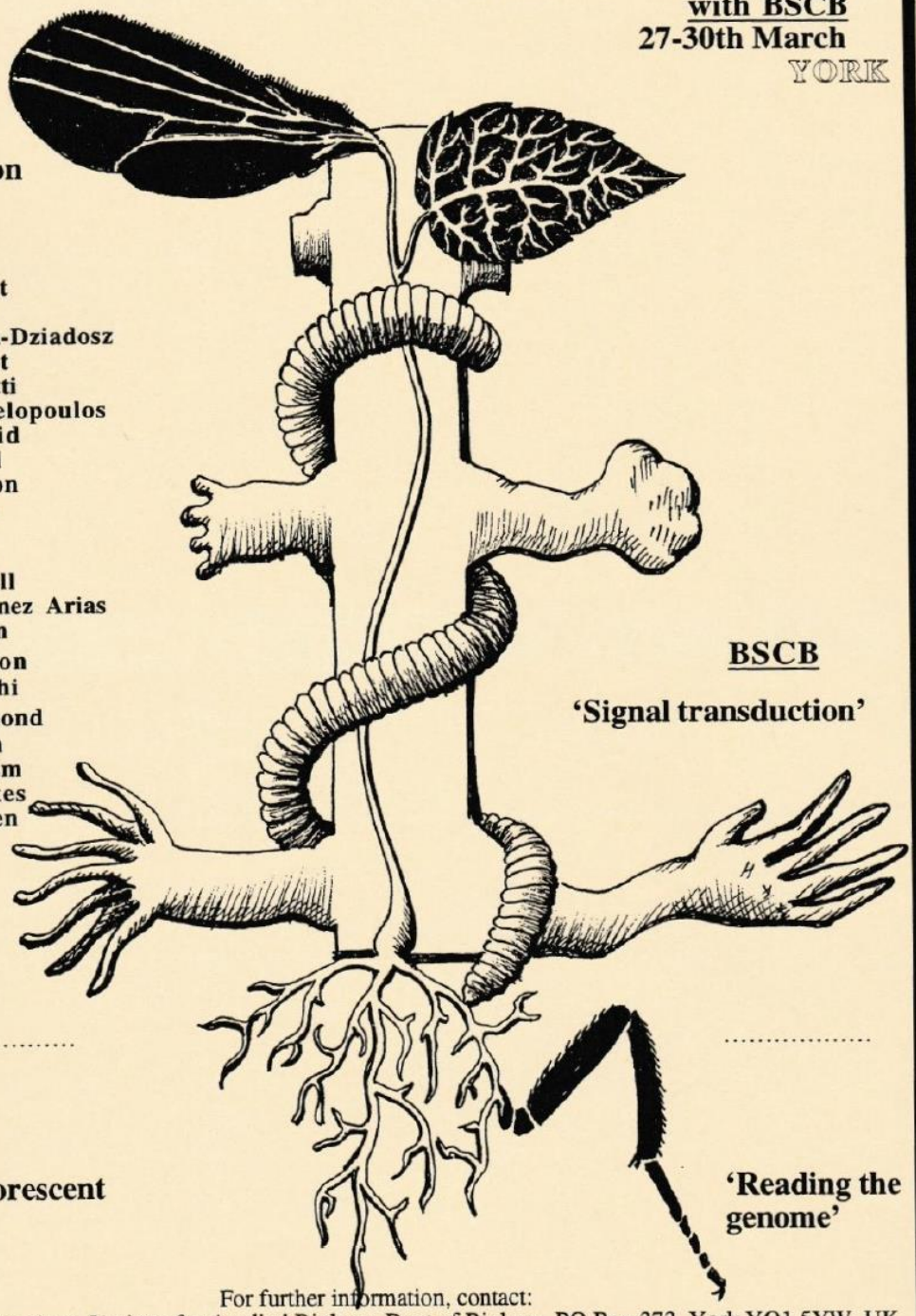
The main **BSCB Symposium** is entitled "**Signal Transduction**". In addition to the two main symposia, there will be a **BSDB Workshop on "Fluorescent Green Protein"** (on Thursday 28th) and a **BSCB Workshop** on "**Reading the Genome**" (on Friday 29th), plus the joint Poster Session.

A **Registration Form**, **Abstract Form** and general information about the conference venue can be found in the 'detachable' **Centre Section** of the Newsletter. The full scientific programme appears on the following pages. Following the procedure at last year's Symposium, the organisers of **Regeneration Growth and Pattern** will choose a few graduate student or post-doc poster abstracts for short (15 minute) platform presentations in the main symposium programme - so **get your poster abstracts in on time!!**

BRITISH SOCIETY FOR DEVELOPMENTAL BIOLOGY

AUTUMN 1995 - No. 32

SPRING MEETING 1996
with BSCB
27-30th March
YORK



BSDB
'Regeneration Growth & Pattern'

P.Bryant
J.Slack
M.Jerka-Dziadosz
S.Bryant
P.Ferretti
G.Michelopoulos
V.Schmid
J.Ansell
D.Winton
H.Bode
E.Salo
S.Hake
S.Carroll
A.Martinez Arias
S.Cohen
A.Hudson
G.Eguchi
P.Raymond
L.Dolan
P.Ingham
J.Brockes
M.Maden

BSCB

'Signal transduction'

'Green Fluorescent Protein'

'Reading the genome'

For further information, contact:
IFAB Communications, Institute for Applied Biology, Dept of Biology, PO Box 373, York YO1 5YW, UK.
Tel: 44 (0) 1904 432940: Fax: 44 (0) 1904 433029: Email: biocomms@york.ac.uk.

BSDB Spring Meeting:
University of York, 27 - 30 March 1996

SYMPOSIUM
'REGENERATION GROWTH AND PATTERN'

Organisers: Vernon French (Edinburgh); Jonathan Slack (Bath)

Thursday 28 March

PLENARY LECTURE

9.00	**P Bryant** (Irvine, USA)	**Genetic approaches to the problem of cell proliferation control**
	.....	
10.10	J Slack (Bath, UK)	Regeneration: the final frontier of developmental biology
10.45	M Jerka-Dziadosz (Warsaw, Poland)	Genetic approach to ciliate pattern formation: does cytoskeletal organisation provide a prepattern?
11.50	S Bryant (Irvine, USA)	Regeneration: it's in our hands
12.25	P Ferretti (London, UK)	Regeneration of fins and limbs and their different response to retinoic acid
14.10	G Michelopoulos (Pittsburgh, USA)	HGF as a regulator of hepatocyte growth and differentiation
14.45	V Schmid (Basel, Switzerland)	Gene expression in the life cycle and the *in vitro* transdifferentiation of striated muscle cells of a hydrozoan medusa
15.20		Contributed paper 1
16.05	J Ansell (Edinburgh, UK)	Haematopoiesis: blood from a clone
16.40	D Winton (Cambridge, UK)	
17.15		Contributed paper 2

Friday 29 March

PLENARY LECTURE - BSCB

9.00	**P Cohen (Dundee)**	
	.....	
10.10	H Bode (Irvine, USA)	Homeobox and forkhead genes in the patterning of hydra
10.45	E Salo (Barcelona, Spain)	Hox genes and the specification of body axes during bidirectional planarian regeneration
11.50	S Hake (Albany, USA)	Genetic control of meristem functions
12.25	S Carroll (Madison, USA)	Development and evolution of arthropod appendages

14.10	S Cohen (Heidelberg,Germany)	Cell interactions across compartment boundaries: the basis for pattern formation during limb development in *Drosophila*
14.45	A Hudson (Edinburgh, UK)	Dorsoventrality in leaves of *Antirrhinum majus*
15.20		Contributed paper 3
16.05	G Eguchi (Okazaki, Japan)	Transdifferentiation of pigmented epithelial cells as a basic process of lens regeneration
16.40	P Raymond (Ann Arbor, USA)	Role of cellular interactions in retinal regeneration in teleost fish
17.15		Contributed paper 4

Saturday 30 March

PLENARY LECTURE - BSCB

9.00 A Whittinghofer (Dortmund, Germany)

10.10	A Martinez Arias (Cambridge, UK)	The function of Notch as a receptor for wingless in *Drosophila*
10.45	L Dolan (Norwich, UK)	Diffusible signals in the patterning of an epidermis
11.50	P Ingham (London, UK)	Control of proliferation and patterning by segment polarity genes in *Drosophila* appendages
12.25	J Brockes (London, UK)	Origin and positional identity of progenitor cells in amphibian limb regeneration
13.00	M Maden (London, UK)	The role of retinoic acid in regeneration

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BSCB SYMPOSIUM
'SIGNAL TRANSDUCTION'
Organiser: Christopher Marshall (London)

Thursday 28 March

C Heldin (Uppsala, Sweden)
S Courtneidge (San Francisco, USA)
B Neel (Boston, USA)
A Pendergast (North Carolina, USA)
A Ridley (London, UK)
S Grant (Edinburgh, UK)
E Nigg (Geneva, Switzerland)
R Mulle (Marburg, Germany)
S Mittnacht (London, UK)
G Peters (London, UK)
M Doree (France)

Friday 29 March

PLENARY **P Cohen** (Dundee)
P Parker (London, UK)
C Marshall (London, UK)
P Shaw (Nottingham, UK)
L Mahadevan (London, UK)
J Smith (London, UK)
R Klein (Heidelberg, Germany)
D Bohman (Heidelberg, Germany)

Saturday 30 March

PLENARY **A Whittinghofer** (Dortmund)
M Saraste (Heidelberg, Germany)
M Katan (London, UK)
I Campbell (Oxford, UK)
J Heath (Birmingham, UK)

WORKSHOPS

Thursday 28 March : **BSDB: 'GREEN FLUORESCENT PROTEIN'**

Friday 29 March : **BSCB: 'READING THE GENOME'**

Autumn 1996: 30 Years of Positional Information
University of Bath

The speakers at this meeeting, organsied by Jim Smith and Cheryl Tickle, will reflect the origins of this central concept in developmental biology and the recent spectacular advances in understanding its molecular basis. Further details will appear in subsequent issues of the Newsletter.

AUTUMN 1996, University of Bath.

'30 Years of Positional Information'

This meeting, organised by **Jim Smith** and **Cheryll Tickle** with **Jonathan Slack** as local organiser, will be held at the University of Bath from **11th-13th September 1996** inclusive.

INVITED SPEAKERS:
Kathryn Anderson (Berkeley)
Sean Carroll (Madison)
Steve Cohen (Heidelberg)
Jonathan Cooke (London)
Denis Duboule (Geneva)
John Gurdon (Cambridge)
Brigid Hogan (Nashville)
Nigel Holder (London)
Herbert Jackle (Gottingen)
Thomas Jessell (Columbia)
Cynthia Kenyon (San Francisco)
Robb Krumlauf (London)
Peter Lawrence (Cambridge)
Mike Levine (San Diego)
Hans Meinhardt (Tubingen)
Doug Melton (Harvard)
Elliot Meyerowitz (Cal Tech)
Christiane Nusslein-Volhard (Tubingen)
Jonathan Slack (Bath)
Cliff Tabin (Harvard)

A full programme, together with Registration and Abstract forms, will appear in the next issue of the Newsletter.

THE MOLECULAR BASIS OF POSITIONAL INFORMATION
University of Bath

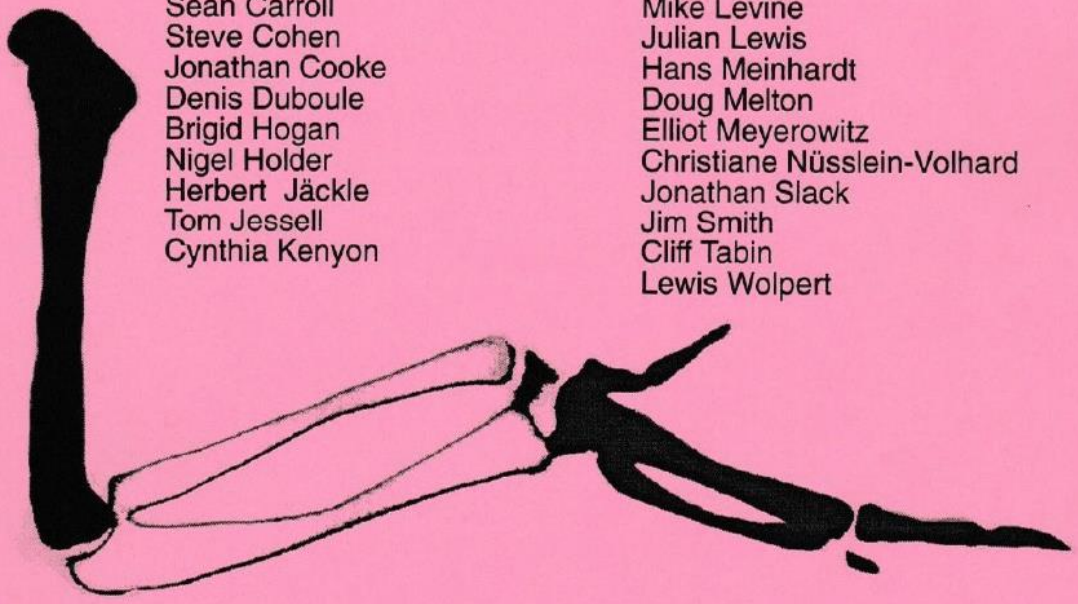
This meeting, organised by **Jim Smith** and **Cheryll Tickle** with **Jonathan Slack** as local organiser, will take place at the University of Bath from **Wednesday 11th to Friday 13th September**.
A **Registration Form** can be found in the 'detachable' **Centre Section** of the Newsletter. The full scientific programme appears on page 3.

The Molecular Basis of Positional Information

Sponsored by the BSDB, the Company of Biologists and the Wellcome Trust

Speakers include :-

Kathryn Anderson
Mariann Bienz
Sean Carroll
Steve Cohen
Jonathan Cooke
Denis Duboule
Brigid Hogan
Nigel Holder
Herbert Jäckle
Tom Jessell
Cynthia Kenyon
Robb Krumlauf
Peter Lawrence
Mike Levine
Julian Lewis
Hans Meinhardt
Doug Melton
Elliot Meyerowitz
Christiane Nüsslein-Volhard
Jonathan Slack
Jim Smith
Cliff Tabin
Lewis Wolpert



University of Bath

11 - 13 September 1996

Booking forms may be obtained from :-

Mrs Elaine Wellingham, Conference Secretariat, Field End House, Bude Close, Nailsea, Bristol BS19 UK

BSDB Autumn Meeting:
University of Bath, 11-13th September 1996

'THE MOLECULAR BASIS OF POSITIONAL INFORMATION'

Organisers: Jim Smith and Cheryll Tickle

Wednesday 11th Sept

Specification and interpretation of positional information.

Chair: Cheryll Tickle

2.00 - 2.30		Peter Lawrence (Cambridge)
2.35 - 3.05		Brigid Hogan (Nashville)
3.10 - 3.40		Elliot Meyerowitz (Cal Tech)
3.45 - 4.15	*Tea*	

Chair: Paul Brickell

4.15 - 4.45		Hans Meinhardt (Tubingen)
4.50 - 5.20		Herbert Jäckle (Gottingen)
5.25 - 5.55		Mike Levine (San Diego)

Thursday 11th Sept

Body axis formation

Chair: Rosa Beddington

9.00 - 9.30		Jonathan Cooke (London)
9.35 - 10.05		Doug Melton (Harvard)
10.10 - 10.40		Cynthia Kenyon (San Francisco)
10.45 - 11.15	*Coffee*	

Chair: Phil Ingham

11.15 - 11.45		Mariann Bienz (Cambridge)
11.50 - 12.20		Jim Smith (London)
12.25 - 12.55		Kathryn Anderson (Berkeley)
1.00 - 2.00	*Lunch*	

Notochord and Neural patterning

Chair: Anne Warner

2.00 - 2.30		Robb Krumlauf (London)
2.35 - 3.05		Tom Jessell (Columbia)
3.10 - 3.40		Julian Lewis (Oxford)
3.45 - 4.15	*Tea*	

Chair: Malcolm Maden

4.15 - 4.45		Nigel Holder (London)
4.50 - 5.20		Janni Nüsslein-Volhard (Tubingen)
5.25 - 5.55		Jonathan Slack (Bath)

Friday 13th Sept

Limb development

Chair: Vernon French

9.30 - 10.00		Steve Cohen (Heidelberg)
10.05 - 10.35		Sean Carroll (Madison)
10.40 - 11.10		Denis Duboule (Geneva)
11.15 - 11.45	*Coffee*	

Handedness and finale

Chair: Nigel Brown

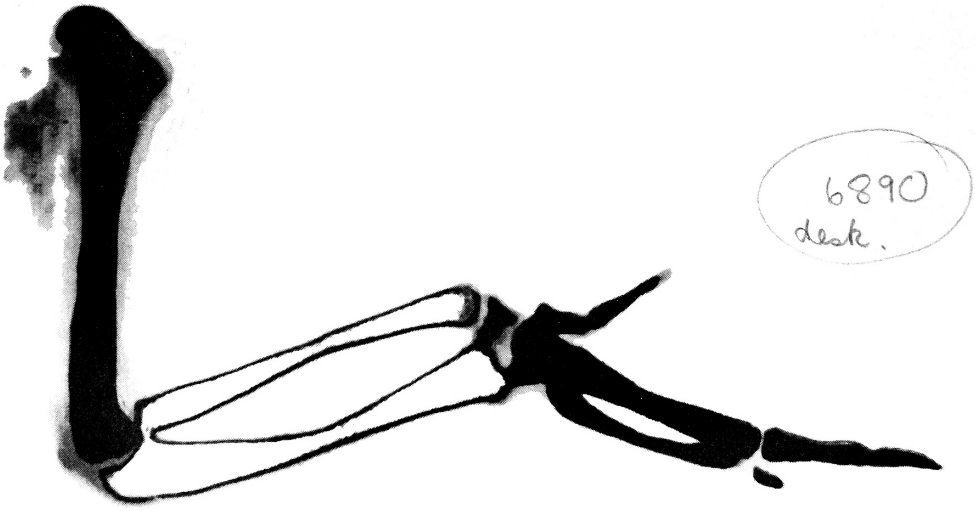
11:45 - 12:15		Cliff Tabin (Harvard)
12:20 - 12:50		Lewis Wolpert (London) *Looking backwards into the future*

actual program

BSDB Symposium

The Molecular Basis of Positional Information

Sponsored by the BSDB, the Company of Biologists and the Wellcome Trust



University of Bath

FINAL PROGRAMME

Wednesday 11 September

12.30-13.30 Lunch, Refectory

All lectures will be given in University Hall.

Specification and interpretation of positional information

Chair: **Cheryll Tickle**

14.00	**Peter Lawrence** Gradients, tissue polarity and growth
14.35	**Brigid Hogan** BMPs: mediators of intercellular interactions during mammalian development
15.10	**Elliot Meyerowitz** Positional information in developing flowers
15.45	Tea, SCR Dining Room

Chair: **Paul Brickell**

16.15	**Hans Meinhardt** Models for the generation and interpretation of positional information
16.50	**Herbert Jäckle** No title received
17.25	**Mike Levine** No title received

18.00-19.00 Dinner, Refectory

19.15-19.45 Coaches depart Car Park F for Tour of Roman Baths

21.30-22.00 Coaches return to the University

23.00 Parade Bar closes

Thursday 12 September

07.30-09.00 Breakfast, Refectory

Body axis formation

Chair: **Rosa Beddington**

09.00 **Jonathan Cooke**
Evidence for a conserved mechanism of vertebrate axial positioning

09.35 **Doug Melton**
Short range and relayed signals in Xenopus mesoderm induction

10.10 **Cynthia Kenyon**
Antero-posterior pattern formation in C. elegans

10.45 Coffee, SCR Dining Room

Chair: **Phil Ingham**

11.15 **Mariann Bienz**
Endoderm induction in Drosophila: extracellular signals and nuclear targets

11.50 **Jim Smith**
Mesoderm induction in Xenopus: extracellular signals and nuclear targets

12.25 **Kathryn Anderson**
Establishment of the body plan in insect embryos

13.00 Lunch, Refectory

Notochord and neural patterning

Chair: **Anne Warner**

14.00 **Robb Krumlauf**
Hindbrain segmentation

14.35 **Tom Jessell**
Control of cell fate and pattern in the neural tube

15.10 **Julian Lewis**
Mixed neighbourhoods: Delta-Notch signalling and the prevention of uniformity in neurogenic epithelium

15.45 Tea, SCR Dining Room

Chair: **Malcolm Maden**

16.15 **Nigel Holder**
Eph receptor signalling and patterning of the zebrafish visual system

16.50 **Janni Nüsslein-Volhard**
No title received

17.25 **Jonathan Slack**
Fibroblast growth factor and anteroposterior pattern in the Xenopus embryo

18.00-19.00 Dinner, Refectory

19.30 Conference Dinner, SCR Dining Room

21.00 Evening Event, SCR Lounge

24.00 SCR Bar closes

Friday 13 September

07.30-09.00 Breakfast, Refectory

Limb development

Chair: **Vernon French**

09.30 **Steve Cohen**
Positional information in Drosophila limb development

10.05 **Sean Carroll**
Positional information in butterfly wings

10.40 Coffee, SCR Dining Room

11.10 **Denis Duboule**
Hoxd genes in digits

Handedness and finale

Chair: **Nigel Brown**

11.45 **Cliff Tabin**
Specification of left-right differences in the vertebrate embryo

12.20 **Lewis Wolpert**
Looking backwards into the future

12.50 Lunch, Refectory

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.

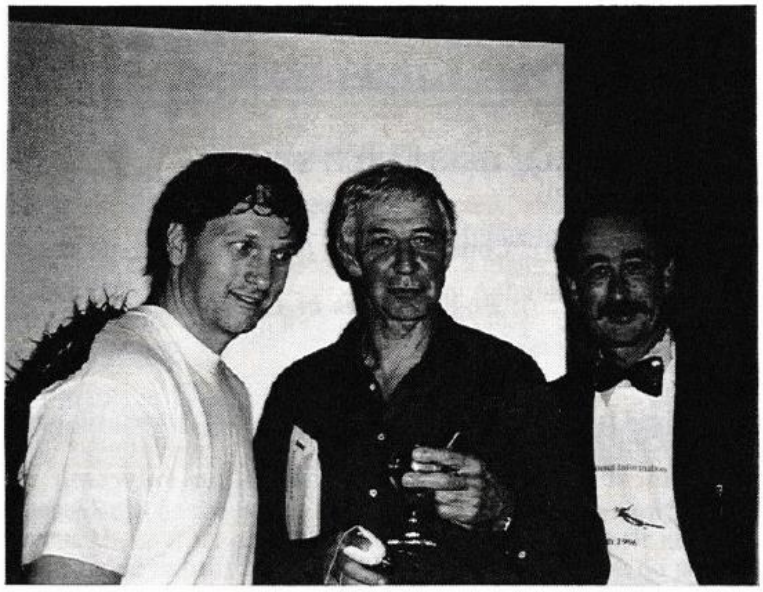
A common thread running through many of the lectures was the conserved function of many genes between species. Jonathan Cooke discussed the similar role of the chick and the *Xenopus* veg-1 in specifying the ventral axis whilst Julian Lewis indicated similar functions for *Xenopus* and chick delta homologues 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!")