

1990 (Newsletters #17, 18, 19, 20, 21, 22)

SPRING 1990

The Spring 1990 Symposium meeting will be held in Manchester. The main topic is 'Imprinting' and the organizer is Marilyn Monk.

Spring 1990, Manchester

The 1990 Symposium Meeting will be held in Manchester on April 2-5. The topic is 'Imprinting' and the organizer is Marilyn Monk (London). Suggestions for

half-day sessions at this meeting are welcome, and should be sent to the Meetings Secretary, Nigel Holder.

Spring, 1990, Manchester: Imprinting

The 1990 Symposium meeting will be held in Manchester on April 4-7. The topic is **Analysis of Genomic Imprinting in Plants and Animals**. The organizers, Marilyn Monk and Azim Surani, write:

Chromosomal imprinting is a process of epigenetic modification which is encour-

tered in a wide range of organisms. The major consequences of this epigenetic modification is that homologous chromosomal regions and parental alleles show apparent functional differences despite being exposed to the same cytoplasmic environment. There is increasing interest in this aspect in terms of the molecular mechanisms involved together with

the consequences of differential activities of parental alleles. A comprehensive Symposium on this topic will allow participants to examine the evidence and assess the possible similarities between disparate organisms. For instance, it will be of interest to discuss how DNA methylation may be employed in various organisms to modulate expression of parental alleles.

The consequences of chromosomal imprinting are also very diverse. They range from effects on the activities of transposable elements in plants, mating type switches in yeast, selective elimination of parental chromosomes in insects and a range of potential effects in mammals. These include X-inactivation, control of cell proliferation and differentiation in embryos as well as possible implications in human genetic disorders such as Huntington's Disease and embryonal tumours such as retinoblastoma and rhabdomyosarcoma.

The purpose of this Symposium is that for the first time it will allow scientists working on disparate systems to come together to assess the full implications of chromosomal imprinting which appears to be a fundamental process in many organisms.

The Symposium will be divided into the following major categories:

A: Imprinting in Plants

This will include discussions on the distribution of parental chromosomes in plants, evidence for imprinting in yeast, as well as the reversible activities of transposable elements.

B. Imprinting in Insects

Evidence for selective elimination of

parental chromosomes as well as differential activities of parental alleles in axolotl and fish.

C. Mammals

This will comprise a major part of the Symposium and will include (a) Differential roles of parental chromosomes on development of embryonic cells; (b) Imprinting of the X-chromosome in rodents and marsupials; (c) imprinting of transgenes; (d) role of DNA methylation in imprinting and (f) influence on human genetic disorders.

The discussion will focus on probable evolutionary questions relating to the imprinting process.

Speakers include: **Klar** (USA), **Kermicle** (USA), **Heslop-Harrison** (UK), **Nur** (USA), **Graves** (USA), **Cattanach** (UK), **Solter** (USA), **Babinet** (France), **Surani** (UK), **Reik** (UK), **Saprenza** (USA), **Clarke** (UK) and **Holliday** (Australia).

There will be additional BSDb sessions on **Homeoboxes** and on **Embryonic wound healing**.

The BSCB symposium topic will be **Growth factors**. Other BSCB topics include **AIDS**, **Integrin**, the **Cytoskeleton**, **Endothelium** and **Protein targeting**.

The meeting begins, on Tuesday 4th April, with two Anatomical Society sessions on **Ultrastructure and functioning in connective tissues**.

Full details of the meeting will be published in the Autumn/Winter Newsletter.

Spring 1990, Manchester: Chromosomal Imprinting and Transgenic Animals

The first BSDb meeting of 1990 will be held at the University of Manchester on 3-6 April. As usual, this Spring meeting will be a joint Symposium meeting with the BSCB and in addition there will be a Symposium organized by the Anatomical Society. The BSDb Symposium topic is **Analysis of Genomic Imprinting in Plants and Animals**. In the last Newsletter, the organizers of the meeting, Marilyn Monk and Azim Surani, explained the importance of the meeting:

Chromosomal imprinting is a process of epigenetic modification which is encountered in a wide range of organisms. The major consequences of this epigenetic modification is that homologous chromosomal regions and parental alleles show apparent functional differences despite being exposed to the same cytoplasmic environment. There is increasing interest in this aspect in terms of the molecu-

lar mechanisms involved together with the consequences of differential activities of parental alleles. A comprehensive Symposium on this topic will allow participants to examine the evidence and assess the possible similarities between disparate organisms. For instance, it will be of interest to discuss how DNA methylation may be employed in various organisms to modulate expression of parental alleles.

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Huntington's Disease and embryonal tumours such as retinoblastoma and rhabdomyosarcoma.

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This will include discussions on the distribution of parental chromosomes in plants, evidence for imprinting in yeast, as well as the reversible activities of transposable elements.

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The discussion will focus on probable evolutionary questions relating to the imprinting process.

The timetable for this meeting is as follows:

CHROMOSOME IMPRINTING AND TRANSGENIC ANIMALS

WEDNESDAY, APRIL 4

8:30 - 9:30 PLENARY LECTURE. Chair: **Marilyn Monk**

Amar Klar (Frederick, Maryland, USA)

Regulation of fission yeast mating type interconversion by DNA strand-specific imprinting.

IMPRINTING IN PLANTS. Chair: **Robin Holliday**

9:45 - 10:30 **Jerry Kermicle** (Madison, Wisconsin, USA)

Imprinting of gene action in maize endosperm.

10:30 - 11:00 **Coffee**

11:00 - 11:45 **R.B. Flavell** (Norwich, UK)

Variation and inheritance of cytosine methylation patterns in wheat and differential gene expression.

11:45 - 12:30 **J.S. Heslop-Harrison** (Cambridge, UK)

Gene expression and parental dominance in hybrid plants.

12:30 - 14:00 **Lunch**

IMPRINTING IN INSECTS (with EVOLUTION and the beginning of MAMMALS)

Chair: **Mike Ashburner**

14:00 - 14:40 **Uzi Nur** (Rochester, NY, USA)

Genomic imprinting and heterochromatinisation in insects.

14:40 - 15:20 **Kenneth Tartof** (Fox Chase, Philadelphia, USA)

Temporal regulation of heterochromatin formation.

15:20 - 15:50 **Tea**

15:50 - 16:30 **Sharat Chandra** (Bangalore, India)

Some evolutionary aspects of imprinting.

16:30 - 17:10 **Marilyn Monk** (London, UK)

Preferential X chromosome inactivation.

THURSDAY APRIL 5

IMPRINTING IN MAMMALS Chair: **Azim Surani**

9:45 - 10:30 **Peter Jones** (Los Angeles, CA, USA)

Role of DNA methylation in development and imprinting.

10:30 - 11:00 **Coffee**

11:00 - 11:45 **Bruce Cattanach** (Didcot, Oxon, UK)

Autosomal and X chromosome imprinting

11:45 - 12:30 **Davor Solter** (Philadelphia, PA, USA)

Use of a transgenic mouse line to study genomic imprinting

12:30 - 14:00 **Lunch**

Chair: **Mike Akam**

14:00 - 14:40 **Charles Babinet** (Paris, France)

Genomic imprinting and preimplantation mouse development.

14:40 - 15:20 **Azim Surani** (Cambridge, UK)

Nuclear and cytoplasmic factors in imprinting in the mouse.

15:20 - 15:50 **Tea**

15:50 - 16:30 **Wolf Reik** (Cambridge, UK)

Genetic control and developmental consequences on imprinting by DNA methylation.

16:30 - 17:10 **Carmen Sapienza** (Montreal, Canada)

Title not received.

FRIDAY APRIL 6

Chair: **Bruce Ponder**

9:45 - 10:30 **Angus Clarke** (Cardiff, Wales, UK)

Genomic imprinting in clinical genetics.

10:30 - 11:00 **Coffee**

11:00 - 11:45 **Judith Hall** (Vancouver, BC, Canada)

Title not received.

11:45 - 12:30 **Robin Holliday** (CSIRO, Sydney, Australia)

Imprinting and allelic exclusion.

The **BSCB Symposium** is on **Growth Factors**. The programme for this part of the meeting is as follows:

WEDNESDAY, APRIL 4

9:45 - 10:15 **T. Blundell** (London)

Structure and function of growth factors and their receptors.

10:15 - 10:45 **I. Campbell** (Oxford)

The solution structure of EGF and TGF α .

10:45 - 11:15 **Coffee**

11:15 - 11:45 **Y. Jones** (Oxford)

The structure of tumor necrosis factor

11:45 - 12:15 **J. Priestle** (Basle)

The structure of interleukin 1 β

12:30 - 14:00 **Lunch**

14:00 - 14:30 **S. Aaronson** (NCI, Bethesda, USA)

The autocrine regulation of cell proliferation

14:30 - 15:00 **H. Rozengurt** (London)

The cell physiology of bombesin

15:00 - 15:30 **Tea**

15:30 - 16:00 **C. Dickson** (London)

The FGFs and the int-2 oncogene

16:00 - 16:30 **C. Heldin** (Uppsala)

The PDGFs and their receptors

16:30 - 17:00 **M. Hanley** (Cambridge)

Neural peptide receptors and transforming genes

THURSDAY APRIL 5

8:30 - 9:30 **PLENARY LECTURE R. Tsien** (California)

Imaging and manipulation of cytosolic second messengers during cell activation

9:45 - 10:15 **H. Thoenen** (Martinsried)

Neurotrophic factors

10:15 - 10:45 **K. Unsicker** (Marburg)

Neuroectodermal cell growth factors: storage, release and response

10:45 - 11:15 **Coffee**

11:15 - 11:45 **M. Noble** (London)

Development, regeneration and neoplasia in the nervous system

11:45 - 12:15 **M. Dexter** (Manchester)

The CSFs - progress towards understanding their role in survival and proliferation of haemopoietic cells

12:15 - 12:45 **C. Sherr** (Memphis)

CSF-1 and its receptor (c-fms)

12:45 - 14:00 **Lunch**

14:00 - 14:30 **L. Wakefield** (NCI, Bethesda, USA)

The cell physiology of TGF β 's

14:30 - 15:00 **F. Boyd** (Worcester, Mass)

TGF β 's and their receptors

15:00 - 15:30 **Tea**

15:30 - 16:00 **J. Wozney** (Cambridge, Mass)

Factors influencing bone development

16:00 - 16:30 **J. Heath** (Oxford)

Growth factors in embryogenesis

16:30 - 17:00 **C. Kenyon** (California)

Cell interactions regulate homeobox gene function during *C. elegans* development

FRIDAY APRIL 6

8:30 - 9:30 **PLENARY LECTURE J. Brockes** (London)
Retinoic acid and limb morphogenesis

9:45 - 10:15 **P. Bryant** (California)
Cell proliferation control in *Drosophila*

10:15 - 10:45 **E. Hafen** (Zurich)
Cellular interaction in the developing eye of *Drosophila*

10:45 - 11:15 **Tea**

11:15 - 11:45 **J. Slack** (Oxford)
Growth factors as inducing factors in early embryonic development

11:45 - 12:15 **L. Wolpert** (London)
Morphogenesis in the chick

The **Anatomical Society Symposium** is on

Ultrastructure and Function in Connective Tissues.

These talks take place on **Tuesday April 3**. The programme is as follows:

Morning

Scott (Manchester): Connective tissues, ground rules and ground substance

Stockwell (Edinburgh): Cartilage

Boyde (London): Bone

Afternoon

Furthermeyer (Stanford): Basement membranes

Linsenmeyer (Boston): Cornea

Lapierre (Liege): Skin

Other sessions organized by the BSDB and BSCB are listed below:

TUESDAY APRIL 3

Afternoon

HOMEBOXES (BSDB). Speakers include **Duboule** (Heidelberg), **Krumlauf** (London), **Gaunt** (Cambridge), **Hill** (Edinburgh) and **Sharpe** (Manchester).

All the talks will concentrate on the mouse Hox gene complexes.

CELL BIOLOGY OF AIDS (BSCB). Speakers include:

Marsh (London): Entry of enveloped viruses into cells

Pauza (Salk institute): Entry of HIV by endocytosis

Weiss (London): Entry of HIV by fusion

Klausner (NIH): Processing of gp160 in the endoplasmic reticulum

Burny (Brussels): Role of core proteins in virion assembly

WEDNESDAY APRIL 4

EXTRACELLULAR MATRIX AND CYTOSKELETON (BSCB). Speakers include:

Morning

Timpl (Martinsried): Structures of ECM molecules involved in interactions with cells

Humphries (Manchester): Fibronectin-integrin interactions: structural bases and functional roles

Sonnenberg (Amsterdam): Integrins: a family of cell receptors for matrix molecules

Wilcox (Cambridge): Genetic analysis of integrin function

McMahan (Stanford): The matrix molecule agrin in neuromuscular development

Afternoon

Beckerle (Salt Lake City): Regulation of cell-substratum adhesion

Geiger (Rehovot): Cell adhesion molecules

Critchley (Leicester): Functional implications of actinin, talin and dystrophin structure

Bennett (Baltimore): Adducins: modulators of the cortical cytoskeleton

Garrod (Southampton): Cell interactions via desmosomes.

THURSDAY APRIL 5

Morning

ENDOTHELIAL CELL BIOLOGY (BSCB). Speakers include:

Montesano (Geneva): Angiogenesis *in vitro*: morphogenetic and invasive properties of endothelial cells

Moscatelli (New York): Interaction of bFGF with extracellular matrix

Schor (Manchester): Control of vascular cell phenotype by cell-cell and cell-matrix interactions

Thornhill (London): Endothelial cell activation and modulation of leukocyte-endothelial cell adhesion

Afternoon

EMBRYONIC WOUND HEALING (BSDB). Speakers include:

Harrison & Longacre (San Francisco): Embryonic and fetal surgery: a clinical perspective

Hunt (San Francisco): On control of collagen synthesis and deposition in wounds

Whitby & Ferguson (Manchester): ECM molecules and growth factors in fetal and adult wound healing of the mouse lip

Martin & Lewis (Oxford): Why some skin wounds heal and others don't: studies in chick and mouse embryos

French-Constant (Cambridge): The roles of alternatively-spliced fibronectin during wound repair

Krummel (Virginia): The role of TGF β in wound repair

FRIDAY APRIL 5

Morning

PROTEIN TARGETTING (BSCB). Speakers include:

Rapoport (Berlin): Involvement of the signal sequence receptor in translocation across the endoplasmic reticulum

Pelham (Cambridge): Sorting of proteins in the endoplasmic reticulum

Fuller (Heidelberg): KDEL tails and their recognition

Armstrong (London): *Ras* - like proteins in fission yeast membrane traffic

Shepherd (Princeton): *In vitro* assays for components involved in membrane traffic

MEETING REPORT

Manchester 1990: Genomic Imprinting

Some may feel that a large meeting concerned with genomic imprinting was long overdue and absolutely essential for an ever-expanding sector of the 'biological' community whose interests have recently diverted towards this fascinating area. It is perhaps most important for the 'new recruits' of imprinting that these meetings are convened. However, it is instructive and enlightening for those sages in the field who have a chance to serve embryonic theories to a captive audience (count the double-faults) and (perhaps more pragmatically) survey the market for ideas, future collaborations and post-docs! Imprinting is becoming a household word in developmental biology. It seems to crop up everywhere: its borders threaten to encompass established cytogenetic, molecular and clinical territory. This is exemplified by the enigma of the 11p13 Prader-Willi/Angelman deletion syndromes and the continuing methylation story - lest we forget! A facetious remark, perhaps, but one might be forgiven for thinking that imprinting, a still largely unknown process, revolves around methylation. This meeting served as a reservoir for a plethora of novel examples of imprinting; the experts in the field being present to collate these and devise a system of nomenclature in which they might reside. Although we remain largely ignorant as to the origins of the imprint as a memory mechanism, what makes imprinting exciting is its expression across a wide range of phenotypic parameters. The use of transgenes, the production of maps to indicate imprinted loci, and the revision of certain clinical disorders (having disparate parental origin effects) seem to be particularly fruitful avenues of research. However, I am certainly not qualified to chronicle the work presented at the meeting (the first of many disclaimers!); interested absentees will, no doubt, procure themselves a copy of the 1990 **Development** supplement. This volume will stand proud on your bookshelf and tell you everything you wanted to know about your parents' methylation pattern but were afraid to ask The scientific value of this supplement to masters and novices alike is great credit to the organizers, Azim Surani and Marilyn Monk, who I would like to thank earnestly on behalf of BSDB members everywhere, for conspiring to bring together a truly eclectic assemblage. Thanks must also go to the team at Registration, who proved to be a highly efficient 'operation' in view of the large numbers in attendance (take note Trusthouse Forte talent spotters!).

For many, the 1990 venue, Manchester, appeared uninviting. However, the choice proved successful and is part of a greater plan to ease events away from the capital. Manchester (City of Heavenly Water in Anglo-Saxon) had it all; and more than 20 inches of rainfall per annum (or was it per conference?). On a brighter note, the scheduled recreational pursuits were welcome. For some reason, I don't recall the beer-tasting! It is with great pleasure that we, the unscorched, can praise Dr Salthouse (that prime perpetrator of professional pyromania!) for the indoor barbecue. As for the 'come-as-the-animal-you-work-on' disco, congratulations are in order for the chick embryo costume (cunningly fashioned from several abstract booklets) but I was shocked to find that someone has Bonzo the Clown as an experimental subject!

The range of posters this year was stunning (desk-top publishing facilities especially 'space-age' at the University of Manchester). Sadly though, the large numbers of posters in isolated positions, back to back, meant that a lot of work probably remained unnoticed (what might be termed the *conference position effect*, which states that the distance from the bar or main entrance is inversely related to the number of interested parties at a poster). While on the subject, well done to the BSDB for generously increasing the poster prize to accommodate an overseas air-fare. The quality of the poster presentations was ably matched by that of the speakers, some of whom I feel should be singled out: Peter Jones for his excellent delivery, Julia Deloia (an excellent stand-in) and Judith Hall for an extensive clinical review (not to mention her dynamic role in discussion). An overall impression, then, at this my first (of many!) conference? A fairly intense series of lectures punctuated by frequent refreshment breaks (where the 'real' questions are both asked and answered), active discussion and amusing incidents: Sharat Chandra's current interest in avian behavioral imprinting for example, or Amar Klar's fits of inappropriate laughter at the mention of Angelman's syndrome (an ice-breaking episode we all remember with gratitude!). Once again thanks to organizers and delegates for maintaining high level discussion in an informal atmosphere: Reykjavic 1991 here I come!

Alan Thornhill
MRC Mammalian Development Unit
London

AUTUMN 1990

This meeting is likely to be held in Cambridge, on 'The origins of neuronal specificity'. The organizers will be Roger Keynes and Andrew Lumsden.

Autumn 1990, Cambridge

This meeting will be held on September 11-15. The topic is 'The Generation and Regeneration of the Nervous System'

and the organizers are Roger Keynes (Cambridge) and Andrew Lumsden (London).

Autumn 1990, Norwich: Plant and animal development

The Autumn 1990 meeting will be held at the University of East Anglia, in Norwich, on 3-6 September. Several aspects of plant development will be discussed, including cell polarity, cell lineage, patterns of cell division, cell interactions and

homeosis. Parallels between plant and animal development will be highlighted. The proceedings will be published in **Development** as a John Innes Supplement, and full details of the meeting will be announced in the Spring Newsletter.

Autumn 1990, Norwich: Molecular and Cellular Basis of Pattern Formation

The Autumn meeting of the Society will be held jointly with the 9th John Innes Symposium on September 3rd - 6th at the University of East Anglia. The topic is **The Molecular and Cellular Basis of Pattern Formation**, with particular emphasis being placed on pattern formation in

plants - until now a subject rather neglected by the BSDB. The programme for the meeting, together with information for delegates, is below. A booking form for the meeting is in the 'Centre Section' of the Newsletter.

PROGRAMME

Monday, 3rd September 1990

Chairman: Professor Richard Flavell

20:00 14th Bateson Memorial Lecture
Professor Christiane Nüsslein-Volhard
Axis determination in the Drosophila embryo

Wine and Cheese Reception

Tuesday, 4th September 1990

09:00 - 09:10 Introduction and Welcome
Professor Richard Flavell

CELL POLARITY AND CELL LINEAGE

Chairman: Dr Keith Roberts

09:10 - 09:50 **Professor Ralph Quatrano** (Chapel Hill, USA)
The establishment of cell polarity in the Fucus zygote

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|---------------|---|
| 09:50 - 10:30 | Dr Bernard Maro (Paris, France) <i>Polarisation of cells in early mouse development</i> |
| 10:30 - 11:00 | Coffee |
| 11:00 - 11:40 | Dr Gurd Jürgens (München, FRG) <i>Genetic analysis of pattern in the Arabidopsis embryo</i> |
| 11:40 - 12:20 | Professor Scott Poethig (Philadelphia, USA) <i>Genetic regulation of phase-change in maize</i> |
| 12:20 - 13:00 | Dr Gary Ruvkin (Boston, USA) <i>Temporal control of C. elegans development by heterochronic genes</i> |
| 13:00 - 14:00 | Lunch |

CELL DIVISION

Chairman: Dr Caroline Dean

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|---------------|--|
| 14:00 - 14:40 | Dr Clive Lloyd (Norwich, UK) <i>Cellular basis of plant form</i> |
| 14:40 - 15:20 | Professor David Kirk (St. Louis, USA) <i>Genetics and cytological control of the asymmetric divisions that pattern the Volvox embryo</i> |
| 15:20 - 15:50 | Tea |
| 15:50 - 16:30 | Professor Ian Sussex (New Haven, USA) <i>The meristem and plant pattern formation</i> |
| 19:15 - late | Symposium Dinner |

Wednesday, 5th September 1990

CELL INTERACTIONS

Chairman: Dr Nigel Holder

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|---------------|---|
| 09:00 - 09:40 | Dr Tsvi Sachs (Jerusalem, Israel) <i>Cell polarization and cell competition - bases for tissue patterning in plants</i> |
| 09:40 - 10:10 | Dr Nick Hopwood (Cambridge, UK) <i>Regulation of mesodermal differentiation in Xenopus</i> |
| 10:10 - 10:50 | Professor Sarah Hake (Berkeley, USA) <i>Positional information in the maize leaf is altered by the knotted mutation</i> |
| 10:50 - 11:20 | Coffee |
| 11:20 - 12:00 | Dr Cheryl Tickle (London, UK) <i>Retinoic acid and limb development</i> |

12:00 - 12:40 **Professor Ernst Hafen** (Zurich, Switzerland)
Inductive events in Drosophila eye development

12:40 - 14:00 Lunch

Chairman: Dr Keith Chater

14:00 - 14:40 **Dr Rob Kay** (Cambridge, UK)
Cell signalling and patterning in Dictyostelium development

14:40 - 15:20 **Professor Steven Dellaporta** (New Haven, USA)
Using transposons to study regulatory genes in maize

15:20 - 15:50 Tea

HOMEOSIS

15:50 - 16:30 **Dr Enrico Coen** (Norwich, UK)
Flower homeotic mutation in Antirrhinum majus

16:30 - 17:10 **Professor Elliot Meyerowitz** (Pasadena, USA)
Genes directing flower development in Arabidopsis

18:30 - late Poster Session/Informal social evening/Bar

Thursday, 6th September 1990

HOMEOSIS (Continued)

09:00 - 09:40 **Dr Zsuzsanna Schwarz-Sommer** (Köln, FRG)
Properties of Deficiens, a homeotic gene involved in the control of flower morphogenesis in Antirrhinum majus

09:40 - 10:10 **Dr Richard Garber** (Seattle, USA)
Function and regulation of Drosophila homeotic genes

10:10 - 10:50 **Dr Robb Krumlauf** (London, UK)
Homeobox genes and patterning of the vertebrate hindbrain

10:50 - 11:20 Coffee

11:20 - 12:00 **Dr Mike Akam** (Cambridge, UK)
Evolution of pattern-forming genes and the evolution of development

12:00 - 12:40 **Professor Ian Sussex** (New Haven, USA)
The special features of plant development

12:40 - Lunch

Optional site visit to the John Innes Centre for Plant Science Research and 'Special Collection' of rare botanical books.

Departure

Molecular and Cellular Basis of Pattern Formation: John Innes/BSDB Symposium, Autumn 1990

I approached this conference, and therefore this report, from the perspective of a fly developmental biologist who wanted to learn more about plant development, and in particular to see whether the time had come to introduce more plant material into my largely animal based developmental biology course. The conference format consisted of interspersing animal and plant lectures under four main headings - cell polarity, cell interactions, cell lineage and homoeosis. This stopped the animal biologists from boycotting long plant sessions and vice versa, but probably unavoidably gave a somewhat fragmented feel to the meeting.

The programme started with the 14th Bateson Memorial lecture, in which Christiane Nusslein-Volhard gave her usual clear, polished and comprehensive performance. There followed a number of excellent talks on such diverse subjects as fly eyes, signalling in slime moulds and HOX. On the plant side, talks covered updates

on classical systems such as *Fucus* cell polarity and meristems, and also on newly developed fields, most especially the exciting analyses of homoeotic genes which regulate flower development in *Antirrhinum* and *Arabidopsis*. These talks showed just how rapidly plant development is progressing. For me, the talk of the meeting was given by Gurd Jurgens, a fly man branching out into new, botanical pastures with a superb genetical dissection of embryogenesis in *Arabidopsis* which has resulted in the identification of 250 putative embryonic pattern formation mutants. I certainly got plenty of ideas for a lecture or two - I just hope I get round to writing them! The take-home message of the meeting was the speed with which plant developmental biology is coming of age, and I am sure that we shall see a greater proportion of plant material at future BSDB meetings.

Martin Milner
St Andrews University