B.S.D.B.

Newsletter 10

Autumn 1984

I. MEETINGS

Spring Meeting 1985 Glasgow 25th - 29th March

Joint BSDB/BSCB Meeting - Includes the following:-

1) BSDB Symposium "Early Amphibian Development" - organizer Jonathan Slack. Monday 25th, Tuesday 26th March.

Topics and Speakers:
The role of the oocyte in early development. L.D. Smith, C.C. Wylie, G. Malacinski.
Clonal analysis of development J.Cooke, J. Heasman.
Cell movements in early development R. Keller, J. Boucaut, R. Gordon.
Region- and stage-specific markers I. Dawid, J. Slack, P. Hausen, E. Jones.
Timing of early development M. Kirschner, R. Laskey, N. Satoh.
Inductive interactions and information transfer P. Nieuwkoop, H. Grunz, J. Smith, A. Duprat, A. Warner, J. Gurdon.

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2) BSCB Symposium "Growth factors" - organizers C. Hopkins and C. Hughes. 25th - 27th March.
Topics:
Structure and biology of EGF, PDGF, NGF, haemopoietic growth factors, tumour growth factors and insulin-like

growth factors. Structure and function of growth factor receptors. Signals and interactions generated by growth factor-receptor complexes.

Speakers:

Todaro (Seattle), Metcalfe (Cambridge), Berridge (Cambridge), Rosengurt (London), Hopkins (Liverpool), Allen (Beckenham), Waterfield (London), Schlessinger (Rehovat), Goldstein (Texas), Scott (London), Blundell (London), Nissely (Bethesda), Heldin (Uppsala), Gallo (Bethesda), Melchers (Basel), Dexter (Manchester), Beug (Heidelberg), Thoenen (Munich), Scheider (Heidelberg).

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3) General session BSDB/BSCB "Modelling morphogenesis and invasiveness in vitro" - Organizers A. Curtis, J. Edwards, J. Lackie. 25th - 26th March.

Topics:

Normal and pathological invasiveness in vitro, environmental cues for cell behaviour.

Speakers

Folkman (Harvard), Dorozsweski (Warsaw), Evans (St. Andrews), Mareel (Ghent), Cramer (New York), Edwards (Sutton), Parish (Zurich), Lackie (Glasgow), Weston (Eugene), Birchmeier (Tubingen), Dunn (London), McCaig (Edinburgh), Tucker (St. Andrews), Curtis (Glasgow), Gallin (New York).

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4) Tenovus Symposium, BSCB/Nucleotide Group "Eukaryotic Genes" Organizers Goddard (Chairman) and local organizing committee.

Topics:

Genes in embryogenesis, transformation and oncogenesis, DNA rearrangements, control sequences, DNA and chromatin structures.

Speakers:

Gurdon (Cambridge), Davidson (Pasadena), de Robertis (Basle), Hogan (London), Rigby (London, Weiss (London), Barbacid (Bethesda), Gallimore (Birmingham), Lane (London), Wilkie (Glasgow), Sherratt (Glasgow), Borst (Amsterdam), O'Hare (London), Sharp (Cambridge Mass.), Wyke (London), Travers (Cambridge), Cortese (Heidelberg), Dudler (Zurich), McGeoch (Glasgow), Treisman (Cambridge), Lilley (Dundee), Drew (Cambridge), Laskey (Cambridge), Nordheim (Heidelberg), Wu (Bethesda).

All those who are interested in contributing a poster or a platform presentation at this meeting, should send an abstract to Mike Snow, MRC Mammalian Development Unit, Wolfson House, 4 Stephenson Way, London, NW1, before December 17th 1984.

AUTUMN 1985 LONDON

This will also be a joint meeting with the BSCB. It will be held on September 5th and 6th at Middlesex Polytechnic, Trent Park, in North London.

Topics

Thursday 5th - "Wound Healing" organizers J. Couchman and B. Hogan.
- "Mammalian Development" organizer Martin Johnson
Friday 6th - "Cell recognition" organizer R. Kay.
- "Limb development and patterning" organizers D. Summerbell and R. Hincliffe.

The BSCB component of the meeting will be as follows:-

"The Extracellular Matrix: receptors, genes and signals" - Organizers B. Hogan and C. Hughes. 1 - 5 September, 1985

Topics

Molecular genetic analysis of matrix components, receptors for matrix molecules, cell adhesion molecules and neural development, matrix modifications in development and neoplasia, epithelial maintenance and wound healing.

Speakers

F. Barelle (Oxford), B. Olsen (Rutgers), Y. Courtois (Paris), M. Pope (London), J. Couchman (Bedford), E. Ruoslahti (La Jolla), G. edelman (New York), M. Sumper (Regensburg), D. Edgar (Munich), C. Tickle (London), M. Johnson (Cambridge), R. Timpl (Munich), P. Liesi (Mill Hill), R. Trelstead (Rutgers), K. Von der Mark (Munich), A. Vaheri (Helsinki).

The meeting will be limited to 150 participants. In addition to talks by invited speakers, time will be available for short free communications and posters. Applications should be sent, including title of proposed free communication or poster, to either organiser BEFORE 1st April, 1985. The registration fee is £20 for BSCB members or £25 for non-members. Full board and accommodation is £20 per day.

Spring 1986 University of East Anglia

This meeting is still in the planning stage. It will be a joint meeting with BSCB. It will contain a BSDB Symposium on "Insertion of novel informational molecules into developing systems" - organizer J.B. Gurdon. Tentative topics for general sessions are "Drosophila development" and "developmental biology of oocytes".

The BSCB symposium will be on "Cytoplasmic Organization".

II. SOCIETY BUSINESS

1. Southampton, September 1984

EDBO 1984 was such an enormous success (I won't mention the food!) that I asked Peter Thorogood to write a short retrospective note about the meeting. So here it is.....

EDBC '84 - An Organiser's view

The European Developmental Biology Congress took place early last month in the Boldrewood Medical and Biological Sciences Building, Southampton University. This was the sixteenth in a series previously known as the "International Embryological Conferences", which for many years had been sponsored by JEEM but in recent years had been held under the auspices of the European Developmental Biology Organisation. In 1984 Britain was the venue and BSDB were the hosts. Some 760 delegates took part, over half of whom came from overseas and representing in all thirty two countries. After several years of planning it was gratifying for us to see the meeting so well attended (the biggest developmental biology meeting ever held in Europe) and running without any major problems. With two hundred lectures organised into four sessions running in parallel for each of five days, and over three hundred posters displayed during the meeting, the main problem seemed to be one of stamina! People have complemented us on our organisation but from our point of view we were helped considerably by three other factors; firstly the weather, which stayed dry for most of the week; secondly, the friendliness of the delegates which helped to generate a good atmosphere; and thirdly, the science itself. It happens to be a very exciting time in developmental biology at the moment and consequently a number of interesting and topical issues were each given a good airing during various sessions. The Homeobox work is perhaps the first to spring to mind in this context but there were many other issues which also attracted considerable attention. The next meeting in this EDBO series is to be held in Helsinki in 1987 and from informal discussion with the Finnish Organising Committee, it is apparent that they are anticipating strong British representation.

There is a limited number of spare copies of the abstract volume (JEEM, supplement to Vol. 82) which are available to BSDB members at a price of £7.50 inc., postage and packing. Copies can be obtained by sending a cheque, made payable to EDBC '84, to me at the address given below.

Peter Thorogood,
Department of Biology,
Medical and Biological Sciences Building,
Bassett Crescent East,
Southampton,
SO9 3TU.

Postscript

Peter is too modest to mention the extraordinary atmosphere which the organisers managed to create at this meeting. As well as its size, it was one of the happiest meetings I have ever attended. The unique bar hours may have played a role here!

2. From the Chairman

The Cell Biology of Development

The European Developmental Biology Congress at Southampton was a highly successful meeting scientifically, and our local organising comittee is to be congratulated warmly on their achievement. The twenty symposium sessions and copious posters illustrated the breadth of developmental studies in Europe, and it was useful to have in one place at the same time so many of our developmental, cell and molecular biologists. Much trading was done of ideas, reagents and technical know-how. The extent to which traditional developmental systems are being reinterpreted in terms of cell and molecular biology is now remarkable, and emphasises the need for close liaison and frequent exchange of ideas across conventional subject barriers. Fortuitously, thoughts along these lines have much occupied the minds of the officers of the BSDB in recent months and it was gratifying as well as appropriate that at the committee meeting in Southampton, the BSDB committee endorsed enthusiastically proposals from John Gurdon, Brigid Hogan and myself for a much closer working relationship with the British Society for Cell Biology in the future. The scientific advantages that would flow from a better coordination of meetings are many, as was illustrated by Southampton. In addition, our time and our money (both as a Society and individual scientists) are limited and the current dilution of activity among four different meetings each year means each meeting is less likely to achieve the 'critical mass' that we saw at Southampton. For the future therefore, we have recommended that the Spring meetings of each society be held at the same location in the same week, and will include at least two large symposia each based around a general theme, as well as general and special topic sessions. The first such meeting is in Glasgow in 1985 the second in Norwich in 1986 and the 1987 meeting in Oxford - details elsewhere in this issue. For our autumn meeting there will be more flexibility. The BSCB tend to have single topic two or three day meetings with limited numbers of participants. The BSDB wishes to preserve its policy of fostering special interest groups within developmental biology by giving regular opportunities for get togethers - for example, developmental neurobiology, computer modelling, developmental immunology, limb development, mammalian studies, the slime mould group as well as mini-discussion topics on current issues of interest. We will try to ensure that these autumn sessions of the BSCB and BSDB are

organised places and at times that makes convenient and inexpensive passage from one to the other. For example, in Autumn 1985, the BSCB will occupy the front half of a week at Trent Park with a meeting on the cytoplasmic matrix and cell organisation, whilst the BSDB will occupy the second half of the week with a multi-topic session (see news on meetings).

We hope this arrangement will be welcomed by the memberships of the Societies as a sensible step to improve scientific exchange and reduce inconvenience and expense. Your views on this, and your suggestions for other organisational improvements or changes, are of course welcome. Please contact one of the officers or committee members.

Martin Johnson
Chairman

A Response to the Warnock Committtee's Report

This summer the report of the Committee on Human Fertilization and Embryology was published (HMSO, price £6.40). The report contains a substantial section relating to the use of human genetics and embryos in research and makes proposals for their regulation including the requirement for a licence to use material coupled with specific prohibition of certain types of experiment.

The Secretary of State for Social Services has called for comments on the proposals by the end of 1984. Individual members of the Society may wish to respond and may send their comments to Room B1208, DHSS, Alexander Fleming House, Elephant and Castle, London, SE1 6BY. In addition, the Committee of the BSDB is considering whether a collective response to those parts of the report involving scientific terminology and accuracy is appropriate. Any comments from members would be welcomed in framing such a response and should be sent to the Chairman of the BSDB Martin Johnson, Department of Anatomy, Downing Street, Cambridge. It should be stressed that the Society does not intend to consider ethical issues, only matters of scientific fact and accuracy.

Martin Johnson

3. From the Editor

Addresses: There is nothing worse than licking the 490th address label, knowing that a particular member concerned has finished his/her Ph.D., post-doc., etc., and will probably never receive their Newsletter. Could all members who wish to continue to receive their Newsletter please send a brief note of any change of address to the Secretary

(Chris Ford, Department of Biology, University of Sussex, Brighton, BN1 9QG).

JEEM: Now that the Society enjoys closer relations with the Company of Biologists, news of changes in JEEM will be reported periodically. The changeover to doing their own printing has apparently not been incident-free, hence the delay in the August issue. Software permitting, JEEM will be back on schedule with the next issue. Remember that JEEM is available to BSDB members for £20 per year. This subscription price includes the BSDB supplement. There is also a special members price for supplements only. These will be the proceedings of the BSDB Symposia held each Spring, and will be published in the same Autumn. They are available to members at £10 plus postage. They are of course free for subscribers to JEEM.

III. NEW BOOKS

Neurology and Neurobiology, Volume 6:
"Developing and Regenerating Vertebrate Nervous Systems".
Eds. P.W. Coates, R.R. Markwald and A.D. Kenny. Alan R. Liss Inc. 1983.

This book is a compilation of work presented at the Fourth Tarbox Parkinson's Disease Symposium held in Lubbock, Texas, 1982. It contains 19 articles which cover a broad range of topics in developmental neurobiology and regeneration, and there are contributions from some of the foremost laboratories working in these fields. These articles are generally well written and informative. This book will be of value to all researchers working on the development and regeneration of the nervous system at the molecular and cellular levels.

Alun Davies

"Developmental Biology of Cultured Nerve, Muscle and Glia"
D. Schubert. John Wiley & Sons Inc. 1984.
ISBN 0-471-86592-3. £49.45

Although the word "development" in the title of this book is apt for the short chapters on muscle and nerve-interaction, "Cell biology" is more appropriate for the remainder of the book. The latter comprises chapters on nerve, glia and extracellular molecules and adhesion.

The cytoskeleton, neurite growth and the mechanism of action of nerve growth factor are the major topics presented in the chapter on nerve cells. There is, however, no critical discussion of the developmental issues which arise

and little reference to relevant in vivo work. The remaining chapters provide short introductions to several aspects of glia, cell-cell, cell-substratum interactions in culture.

Throughout the book priority is given to studies of tumour cell lines to the exclusion of much important work on normal nerve and glial cells in culture, and for those interested in the use of these cell lines in neurobiology this book provides a comprehensive introduction.

Alun Davies

"Cancer Cells Vol. 1: The Transformed Phenotype".
Eds. A.J. Levine, C.F. Vande Woude, W.C.Topp and J. D. Watson. Cold Spring Harbor Laboratory 1984. $54

This is the first volume of "Cancer Cells" a new Cold Spring Harbor series which is likely to slip effortlessly into the library subscription slots left by the useful "Conferences on Cell Proliferation" series which it supercedes. The new paperback format seems sensible in a series of which volumes will often update their recent predecessors. Some may find the large size inconvenient.

on the topical subjects of large-scale cancer research (several are featured), not even a conference proceedings can be absolutely up-to-the-minute. However CSH usualy do well, and this volume presents a stimulating selection from recent progress within the chosen topics, as of September 1983. Discussed: growth factors, cytoskeleton, gene expression (and transformation), tumour promoters, tumour antigens (see the next volume, reviewed below, for oncogenes). Useful reading for those in the cancer field; ideal for those entering it.

Dorothy Bennett

"Cancer Cells Vol. 2: Oncogenes and viral genes".
Eds. A.J. Levine, G.F. Vande Woude, W.C.Topp and J. D. Watson. Cold Spring Harbor Laboratory 1984. ISBN 0-87969-169-7

"Oncogenes and Viral Genes" and its comparison volume "The Transformed Phenotype" (reviewed above), provide an account of the first in a new series of Cold Spring Harbor meetings focussing on the cancer cell. The papers contained are of a consistently high standard as is to be expected from a publication issuing from the Cold Spring Harbor Laboratory. Articles are grouped under the following headings - the different families of retroviral oncogenes (e.g. ras; src; myc; etc); polyoma; chromosomal rearrangements; SV40; oncogenes and viral genes; and adenovirus. It is particularly important that discussion of

the oncogene DNA viruses has not been neglected since their mechanisms of oncogenesis may differ considerably from those of the retroviruses which seem to holding the centre stage at present. For example transformation of rodent cells in vitro by retroviruses follows single hit kinetics but this is not the case with SV40. The feeling that the field is coming to fruition is evidenced by the documented first steps in the identification of the cellular role of proto-oncogene and oncogene products culminating in the discovery of the relationship between amino acid sequence of platelet derived growth factor and the predicted amino acid sequence of V-sis. The editors have shown the importance of this discovery to those within the field by their choice of the sequences as the cover illustration.

There are still many problems and uncertainties in the field and many of the papers deal with these areas. A major unresolved question has been whether the cellular proto-oncogenes can function as oncogenes without alterations in their sequence or whether certain mutations are required to gain transforming activity by their gene products. In general the variety of processes, documented in this volume, by which they derive from viral cellular genes or become activated are still being analysed. The discovery of transforming genes in retroviruses has suggested oncogenesis as a one-step process and the view of oncogenes as total determinants of tumour formation has been widely held. However several of the papers in this volume voice reservations about this judgement. The discovery that DNA sequences fromm some human tumours could transform NIH3T3 cells led to the assumption that the DNA effective in 3T3 transformation must also have been responsible for the human tumours, despite the evidence that the 3T3 cells were already partially transformed, and the absence of evidence that the cloned DNA sequences could transform human cells in culture. The immortalised state of these NIH 3T3 cells might be sufficient to predispose these cells to tumourigenic conversion by a single event such as acquisition of an oncogene. This contrasts with the often repeated observation that experimental induction of a tumour requires two or more distinct stimuli, such as initiators and promotors. The multistep nature of carcinogenesis is a widely accepted concept supported by a huge literature, both experimental and clinical documenting tumour formation as a slow uncertain, multistage, process and the above simplistic concept of oncogenesis has faced a great deal of criticism. An interesting new development is the discovery that the coordinated expression of several retroviral oncogenes can be required to effect complete oncogenesis and the development of a fully tumourigenic phonotype and this proess of accumulation of several oncogenes could be feasibly take years outside the laboratory particularly if other factors were also involved.

In summary this volume will be extremely useful to all workers in the field of oncology who wish to know more about

'the state of the art' on the topic of onocogenes. However, I feel that cellular or developmental biologists who are intrigued by the current excitement surrounding oncogenes but who know little about the topic would not find this book useful as a primer particularly since no general introductory overview is included. They would probably gain more from a perusal of recent review articles in the weekly or monthly journals. With the proviso in mind I can thoroughly recommend this excellent volume.

Derek Brown

"Introduction to Embryonic Development" Steven B. Oppenheimer & George Lefevre Jr. 2nd Edition, 1984. Allyn & Bacon, ISBN 0-205-08097 £11.95.

The "Introduction to Embryonic Development" covers aspects of both embyrology, and molecular biology as it is applied to developmental biology. It should appeal to final year students and postgraduates, who may be deterred by the more weighty traditional text books of embryology.

After a short historical introduction it presents two chapters of background material on topics such as mitosis and meiosis., Mendelian genetics, and nucleic acids, which should be needed only as revision to most biology students. Embryology proper begins with gametogenesis, and continues with chapters on fertilization, cleavage, gastrulation, neurulation, germ layer formation and derivatives and organogenesis. The layout is clear, and many excellent photographs illustrate the text, in particular a beautiful series shows the stages of sea urchin development. The authors manage to integrate clear, concise accounts of experimental procedures into their descriptions of the developmental processes, without overdoing the technical detail or upsetting the basically chronological presentation. They are also conscientious about stating which species each piece of data comes from - information which is often missing from text books. However, some of the more general discussion is less helpful - for instance on the importance of selective cell adhesion, "after all, if the cells making up our stomachs didn't stick together in a very specific way, we wouldn't have stomachs'.

Unfortunately the section of development of the immune system has been printed in the wrong order, which makes it very difficult to follow.

Further chapters look closely at embryonic induction, and mechanisms of morphogenesis. Again these are clearly preserved. An extra chapter might have been useful here, as there are short sections on slime moulds and plant morphogenesis, but only the sketchiest coverage of pattern formation and the possible role of gradients in development

and insect development barely gets a mention anywhere in the book.

The chapters on differentiation are up to date, with the latest experiments on gene expression, and as part of a chapter on cancer and embryology there is a discussion on onocogenes. Unfortunately I think anyone unfamiliar with the oncogene story might find this account rather confusing. The book finishes with a short chapter on ageing and developmental biology.

Altogether this book is extremely readable and well illlustrated it would be a good buy for students wanting a single text book for a developmental biology course, or for anyone with a knowledge of either embryology or molecular biology who wanted an introduction to the other part of the field.

"Atlas of Embryonic Development" £9.99

The "Atlas of Embryonic Development" shows mainly through L.M. sections and scanning E.M. pictures, what the embryos actually look like. It covers the frog, the chick, and the mammal and makes a good companion to the textbook particularly for practical work. There is a small number of explanatory notes and diagrams for each species, while each photograph is accompanied by a simple line drawing illustrating the whole embryo at that stage, and the level and plane through which the section was taken. The LM sections of the pig embryo, and scanning electron micrographs of chick embryo sections are of good quality, but the LM sections of frog embryos are sometimes hard to make out. However this is an unusual and useful book.

Allison Snape

"Essential Reproduction" Martin Johnson & Barry Everitt Blackwell, 2nd Edition. ISBN 0-632-01258-7 Paperback

The first edition of "Essential Reproduction" has already been strongly recommended to readers of this Newsletter, as a text which succeeds in encompassing the fundamentals of this multi-disciplinary subject. The book deals with gonad development and function, fertilization, placental function, pregnancy, birth and lactation and encompasses hormonal, behavioural, physiological and structural aspects. It does not cover embryonic development.

The second edition updates and refreshes the first and adds sections on fetal physiology, physiology of the pregnant mother and on control and pathology of fertility. It is an excellent text for medical and science students, as

it is clearly set out, very readable, with frequent headings and summaries and has the advantage of relative brevity. It can also be recommended for a much wider readership, to all those with a general interest in reproduction!

Janet Heasman

"Progress in Clinical and Biological Research Vol. 15. Matrices and Cell Differentiation" Eds. Richard B. Kemp and J. Richard Hinchliffe. Alan R. Liss Inc. N.Y. ISBN 0-8451-5001-4 £52.00

This is the proceedings of the Joint Meeting of the British Societies for Cell and Developmental Biology which was held in Aberystwyth in September 1983. It is an interesting and useful collection of papers, with the central theme of the interdependence of extracellular matrix and cell differentiation. Contributions vary from historical reviews (e.g. Weiss on "Cell adhesion and Metastasis") to papers on specific recent pieces of work (e.g. Vasan et al "Extracellular matrix components during somite chondrogenic differentiation"). One criticism, and it is a criticism of many such collections of papers, is that it lacks a summarizing chapter, which might bring together some of the many threads of data and discuss the common theme of the extracellular matrix and cell differentiation.

Janet Heasman

"Genetics and Development" by James H. Sang
Longman 1984. ISBN 0-582-44681-3. £13.95 paperback only

"It may seem the wrong time to write about genetics and development when approximately two papers relevant to the subject are being published daily. Still students have to be taught!" This start to the preface aims the book squarely at advanced undergraduates. It provides a framework from which the reader (undergraduate or otherwise) will be able to follow new research papers.

The book, which arose from a final year undergraduate course, is in six sections. The first deals with the developmental issues which are the goals requiring explanation. This section is necessarily brief, but at Sussex students taking this course have already been exposed to a core course in developmental biology.

The second section covers the organization of the genome. This is described in three ways: in terms of molecular organization; as active polytene and lampbrush chromosomes; and as models of the functioning genome. Section three considers mutations, starting with their nature and significance. Examples are given of the genetic

analysis of genome organization and the exploitation of lethal factors to help understand development.

Mutants are used as tools for studying development in sections four and five. In section four tissue origins, determination and regeneration are analyzed through the use of mosaics, chimeras and surgery. Mutations which produce dramatic changes of phenotype are considered in section 5. These are the homoeotic mutants of Drosophila, and mutations influencing sex determination. The final section of the book deals with model cell systems and future developments.

Throughout the book emphasis is given to experimental evidence and to critical analysis of particular approaches and viewpoints. It provides a valuable review of the rationale for genetic analysis of developmental problems. The bibliography is both extensive and current, despite the continued appearance of two relevant papers a day!

Chris Ford

"Developmental Control in Animals and Plants"
Eds. C.F. Graham & P. F. Wareing. 2nd Edition, 1984.
Blackwell ISBN 0-632-00758-3 £18.50

As a lapsed developmental biologist who is attempting remedial action, I found the second edition of Graham and Wareing's book to be a stimulating and informative text. A major and novel theme of the book is its attempt to "draw attention to the similarities and differences of developmental problems in animals and plants". The book is divided into six sections, which in total contain the contributions of some 22 authors. The sections cover Developmentl processes (Part 1), Origin and Maintenance of Cell Heterogeneity (Part 2), Cell Communication in Development (Part 3), Pattern and Formation in Development (Part 4) Hormones in Development (Part 5) amd Molecular Biology of Development (Part 6). Each section is considered by the editors to provide the groundwork for that following and lest the reader forget this, the editors are careful to contribute concluding remarks to each one. This is very necessary since the multi-author approach, whilst providing for detailed and authoratative articles, tends to affect the integration of the various topics. Thus I found Part 2, which is contributed entirely by the editors to be the most sustained in its ability to inform and fascinate the reader. I also felt the book falls a little short in its declared objective of rendering "plant and animal developmental biologists better acquainted with each others work and concepts". Apart from the secton on Hormones in Development the book mostly concerns work on animal development and a budding (excuse the pun) plant developmental biologist will gain a heavy inferiority complex on reading it. Given the heavy emphasis on early animal embryology, some introduction of basic embryology might have been appreciated even though

the book is intended as an advanced text.

However despite the reservations cited above, I thoroughly enjoyed reading this book and I now know that plant lectins may have a role in plant development and are not produced primarily as tools to study early amphibian development.

Alan Colman

"Growth and Maturation Factors, Volume 2" Ed. G. Guroff
John Wiley and Sons, NY/ Chichester, 1984 £66
ISBN 0-471-09708-X

This is the second volume in a planned series of review collections: a desirable plan for anyone hoping to keep track of this mushrooming subject. The volume is therefore not comprehensive, but most of the reviews seem readable and careful. At this standard the series will be useful to medical and zoological libraries. Maturation factors can be growth factors too, as with erythropoietin, T-cell growth factor (IL2) and the myotrophic "Sciatin" ((!)transferrin) all given chapters here. The postulated effects of the first two on commitment may particularly interest developmental biologists. Also covered: affinity-labelling of receptors, angiogenesis factos, "erythroid-potentiating activities", factors in milk, insulins/IGFs and prostaglandins (so what is a "growth factor", incidentally?)

Coverage is to 1983; but anyone hoping for a swift recap of 1983-1984's startling connections between growth factors and oncogenes had better wait for volume 3.

Dorothy Bennett

"Mechanisms of morphological evolution, a combined genetic, developmental and ecological approach" Wallace Arthur. John Wiley 1984. ISBN 0-471-903-47-7 £19.00

Just a brief mention of this fascinating book. It is really about mechanisms of evolution. However the underlying philosophy that the secrets of evolutionary mechanism lie in the expression of the genes responsible for morphogenesis will I'm sure strike a chord with most of us.

Although difficult to follow without a preliminary course in evolutionary biology, the section on developmental genetics and its application to evolutionary theory is a stimulating one, and gives a useful new perspective on developmental genetics. Well worth a library copy.

C. Wylie