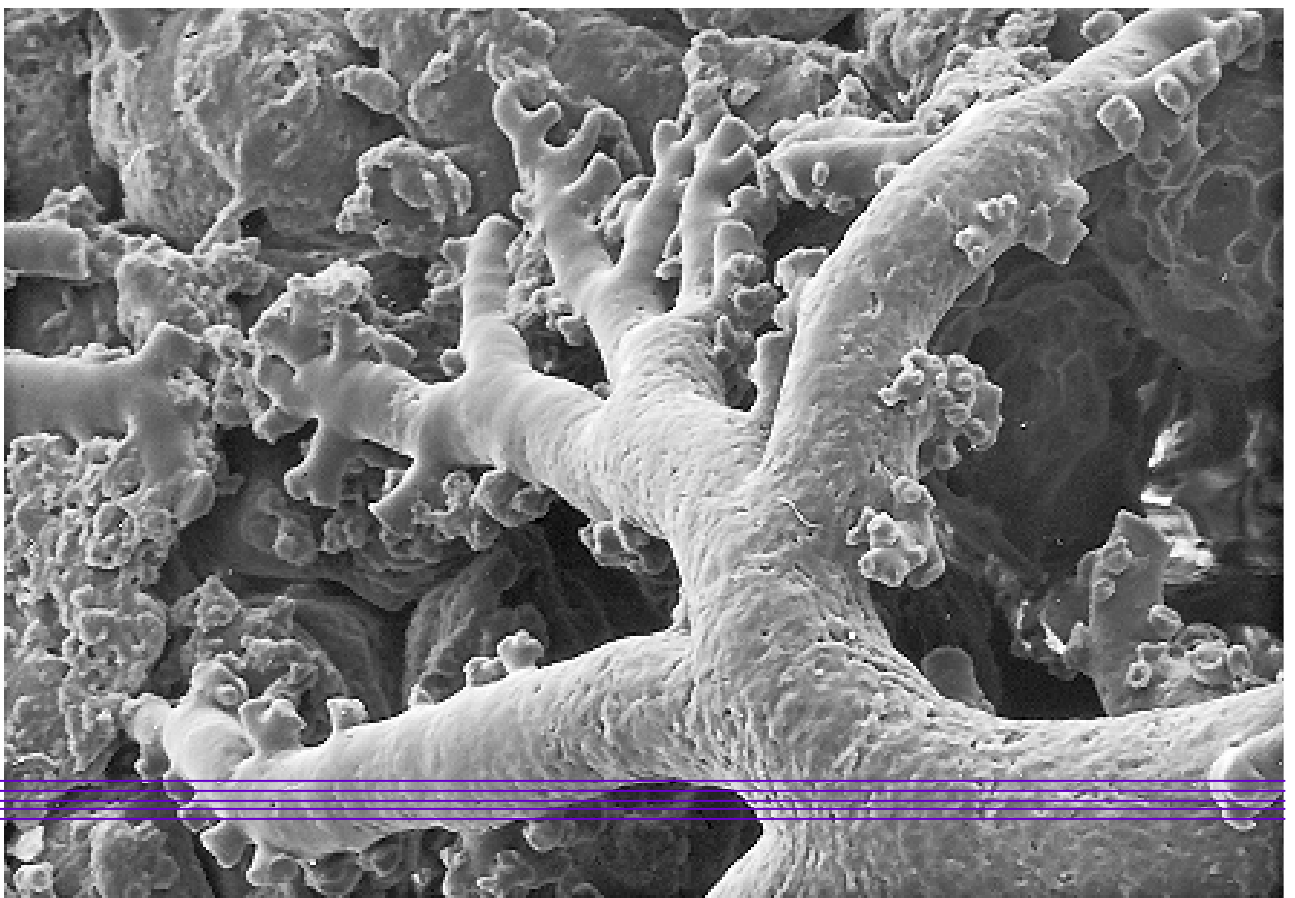




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NEWSLETTER OF THE INTERNATIONAL FEDERATION OF ASSOCIATIONS OF ANATOMISTS
DECEMBER 2004



Office Bearers of the IFAA:

President: Professor David Brynmor Thomas

Vice President: Professor Nobutaka Hirokawa

Secretary General: Professor Bernard Moxham

Treasurer: Dr Duane Haines

Secretaries: Professor Jacques Patrick Barbet
Professor Xu Qu Yang

FRONT COVER PHOTOGRAPH:

Scanning electron micrograph of a double latex cast preparation of the lung of the domestic chicken, *Gallus gallus* variant *domesticus*, showing an intraparábrónchial artery delivering blood to a parábrónchus. At its terminal end, the blood vessel gives rise to blood capillaries that interact with the air capillaries emanating from the atria through the infundibulae.

Photograph courtesy of Professor J Maina, School of Anatomical Sciences, University of the Witwatersrand, South Africa

Hot Southern Summer Greetings from the Editor!!!

Welcome to the fourth edition of **Plexus**. There is so much news to share with member Associations that a second edition of the Newsletter is warranted in 2004.

One concern of the Editor of the Newsletter is reaching the **members** of the various Associations. We need input from all levels of the Associations for the Newsletter to grow, to be a source of information and a home for debate. There are many issues facing anatomists: the impact of decreased time on the teaching of anatomy (Yes I know, you have heard this before! However I do not believe this subject is going to go away in the near future and members are asked to express their views, in this, their Newsletter!); the value of *viva voce*'s in anatomy; the role of human dissection in an anatomy course. All these topics generally bring out very strong feeling in anatomists, so please write and tell us your problems/views/solutions! To this end, read Professor

Bernard Moxham's thoughtful and thought provoking article on page 4, and also the important Declaration of Kyoto, 2004 on page 7.

*Please would you email a copy of this Newsletter to members of **your Association and/or place a copy on your Association's Website** so that Plexus reaches every anatomist, both young and old.*

You missed the 16th International Congress of the IFAA in Kyoto??!! Read about it on page 23. Also, start planning for the **17th International Congress** of the IFAA which will be held on the African Continent in 2009. See page 26 for the initial announcement.

Beverley Kramer
Editor, Plexus

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The New Anatomist

Bernard Moxham

EDITORIAL NOTE:

Bernard John Moxham is Deputy Director of the Cardiff School of Biosciences, where he is the Professor of Anatomy. He is currently the Secretary-General of the IFAA and President of the Anatomical Society of Great Britain and Ireland. He has been much involved in the development of Medical Humanities and their inclusion in anatomical courses (he is a member of the Editorial Board of the journal *Medical Humanities*). He has particularly fostered the role of the visual arts in Anatomy, having sponsored artists-in-residence in his department and helped organise exhibitions of Art and Anatomy. Bernard has accordingly provided *Plexus* with an essay entitled "The New Anatomist" that was written for the catalogue of a Wellcome Trust exhibition at the Two10 Gallery, London. This essay was intended for members of the general public, to enable them to better appreciate Anatomy in a modern context.

In a forthcoming issue of *Plexus*, we will print a portfolio of images of artworks that formed part of an exhibition Bernard helped organise entitled "New Anatomy Lessons".

Bernard is firmly of the opinion that anatomists must involve themselves, and their students, not only in the scientific basis of Anatomy but also in the "culture and intellectual history" of their discipline (including the creative arts) in order to promote interest and knowledge of Anatomy.

"The Anatomist is the allegory of curiosity. He is the invader of private spaces... By repute he is one down in the social hierarchy from the barber-surgeon and two down from the gossip-mongering midwife... Is it surprising that contemporary fiction in the forensic lab gives a special life to the Anatomist? He is commonly a misanthropic philosopher, or a laughing melancholic, or a most common-sense atheist, or all three, and we understand perfectly well why that should be". (*Peter Greenaway, 100 Allegories to Represent the World (Merrell Holberton Publishing, 1998)*)

Anyone who takes a serious interest in the biomedical sciences recognizes the central importance of studying the structure of the human body (i.e. anatomy). Nevertheless, in today's

universities and medical establishments there is ample cause for pessimism for the future of anatomy. To understand this dilemma it is necessary to understand the status of the contemporary anatomist (the 'new anatomist') in relation to our predecessors and the history of our subject.

Anatomy has had both a noble and an ignoble history. It seems hardly necessary to record in detail the fear felt by our ancestors of being anatomized. A death sentence, followed by dissection, was not infrequently a punishment for relatively minor criminal acts. The unfortunate victim might also be displayed as an object of curiosity since public dissections were a popular form of "entertainment". Even where human dissections are performed legally (and with appropriate permission), there is an understandable revulsion against having one's external and internal 'blemishes' revealed. The nineteenth-century Anatomy Acts in Britain led beneficially to the requirement that a cadaver used for anatomical research and teaching must be obtained by donations properly witnessed during the person's life.

Anatomy's noble history clearly relates to the considerable benefits that have accrued to medicine and surgery by the scientific investigation of the human body. In addition, there are also important cultural and philosophical aspects to consider. Firstly, anatomists, such as Andreas Vesalius, broke the stranglehold of scholasticism in what passed for academic life during the Renaissance. Thus was ended the belief that knowledge should be derived primarily by reading, re-reading and interpreting the existing, "authorized" texts and not by personal observation, experience and experiment. That this was a dangerous philosophical stance is indicated, for example, by the secrecy in which Leonardo da Vinci pursued his extensive anatomical investigations and by the many trials for heresy inflicted upon the early anatomists.

....*The Anatomist is the allegory of curiosity. He is the invader of private spaces...*

Secondly, in recognition of the importance of anatomy, universities to this day retain the hierarchical structures and academic positions initially used during the conduct of Renaissance anatomical dissections. Accordingly, the Professor, seated at a 'Chair', was positioned above the

dissecting arena in order to oversee the conduct of events. The Reader, following the accepted text for the School of Anatomy, read aloud the relevant anatomical description whilst, in the arena itself, the Lecturer and the Demonstrator undertook the dissection.

For contemporary anatomists, the proscriptions of the Anatomy Act serve to protect our studies. Consequently, whilst we still live with the legacy of our less than respectable history and with the incredulity felt by members of the general public that we can still pursue such 'morbid' academic interests, we have eventually become an honoured profession. In recent times, however, both the subject and the practice of anatomy has changed markedly and the academic environment and intellectual activities of those who choose to call themselves anatomists have become vastly different from those that existed even 15 years ago.

For the old anatomists, death was essentially the subject and most anatomical knowledge was derived from the human corpse. The primary instrument of investigation was the scalpel and basically only the gross, visible (topographical) anatomy was capable of being investigated. For the old anatomist, the structure of the human body was ideally to be related to function. Accepting this principle, the anatomist William Harvey described the arrangements of veins and their valves in the arm and conjectured the circulation of the blood, thus founding physiology. For the new anatomists, death remains one of our subjects and the role of the discipline in encouraging medical students and practitioners to consider aspects of human mortality is increasingly being appreciated. For our research, however, study is not restricted to *post mortem* material but can also be derived from *in vivo* and *in vitro* tissues that are living and functional. This reflects not just change in availability of biological materials but improvement in technologies, and also relates to the broadening of the discipline. For the new anatomist, cellular, developmental, neurological and anthropological themes are now investigated in addition to the gross, visible anatomy. Nevertheless, there is a clearly discernible evolution from earlier models for many of the subdivisions of our 'New Anatomy'.

In common with most scientific disciplines, the broadening of the subject of anatomy has oc-

curred alongside technological innovation and development. Thus, the instruments of investigation are state-of-the-art microscopes (including electron microscopy and laser confocal microscopy) and new imaging technologies. It would be mistaken, however, to assume that structure has become less important. Indeed, structure is the fundamental point of view to which we always return. Yet whilst still relating structure to function, the new anatomist also relates structure to composition. This relationship with biochemistry has taken on great significance in recent years, particularly following the development of procedures to label or trace biological chemicals that can then be located in the tissues with microscopes. Thus, the now standard techniques of histochemistry, immunohistochemistry and immunocytochemistry have been established in the anatomist's research armoury. Even more recently, DNA and RNA probes have been used to assess when certain genes are being expressed in tissue cells - a technique termed *in situ*

hybridization. It would not be entirely an exaggeration (or a bias) to suggest that anatomy is central to a full understanding of the biomedical sciences as well as the clinical disciplines.

Despite the new technologies and the increasingly sophisticated methods for studying living cells and tissues, it would be wrong to give the impression that there is nothing new to be discovered in the gross, visible anatomy of the human body. Ours is not a 'dead' subject with complete knowledge being assured - an all too commonly held opinion even in the medical world. There are still regions of the human body (for the back and the brain) where our knowledge of the gross anatomy is incomplete or gives rise to controversies. Also, elaborate textbook descriptions of human anatomy are essentially 'consensus' views since there is considerable anatomical variation. A quick perusal of any scientific journal of anatomy will show that, in addition to the many scientific papers using advanced biological technologies and experimental designs, there are also reports/case histories of such variations. The reporting of anatomical variations not only adds to the store of our knowledge, but it also crucial for clinical and surgical specialities. In addition, gross topographical anatomy is becoming increasingly important for endoscopic surgery and for a proper appreciation and interpretation of new medical and radio-

For our research, however, study is not restricted to post mortem material but can also be derived from in vivo and in vitro tissues that are living and functional.

logical imaging techniques (for example, magnetic resonance imaging).

For the old anatomists, our discipline was related inextricably to the study and practice of medicine and surgery. Indeed, anatomy formed the scientific foundations for these clinical disciplines. Whilst some of today's anatomists might still be content only with medical education, others have also realized the importance of anatomy. Consequently, the study of many of the subjects allied to medicine (for example dentistry, radiography, physiotherapy, podiatry, optometry and complementary or alternative medicine) requires the student/practitioner to learn the relevant anatomy. Additionally, anatomy is a science taught and researched by undergraduate and postgraduate students who will follow an academic and not a clinical career. Thus, for the new anatomist, the discipline is related to all the health and life sciences.

To return to the note of pessimism alluded to at the start of this essay. For the old anatomist working privately, if not surreptitiously, curiosity too often was in danger of killing the cat! Indeed, recent changes to the organization of biomedical sciences in our universities and to the system of medical education can appear so deleterious to the traditional study of anatomy that the cat appears to have been well and truly buried already. Nowadays, most universities have dispensed with a separate anatomy department, merging the discipline with other medical sciences or with biology in general. In some, new integrated medical courses have dispensed with separate anatomy courses or even with the dis-

secting room so that students are not just denied the privilege of dissecting a human cadaver, but might only see human anatomy from models, computer programs, or in lecture demonstrations.

There is thus a danger of a new form of scholasticism developing. It behoves all of us who uphold scientific and empirical philosophies to be on our guard. Undoubtedly, some of these changes have been as much driven by political concerns as by educational need and, to the traditionalist, all these changes appear to be destabilizing and

... anatomical variations...crucial for clinical and surgical specialties.....is becoming increasingly important for endoscopic surgery and for a proper appreciation and interpretation of new medical and radiological imaging techniques...

have induced much soul searching and heart wrenching. Fortunately, however, most anatomists have shouldered the responsibilities of adapting to change and are emerging as leading figures in the new biomedical sciences, both as educationalists and as researchers. Perhaps, thankfully, it is the case that from behind the mask of the new anatomist, the old anatomist

still peeps out. But please, let's emphasize the curiosity and dispense with Greenaway's notions of misanthropy, melancholy or reactionary conservatism!"

Professor Bernard Moxham

Cardiff University



**The Anatomy Lesson of
Dr Sebastian Egbertz:
Thomas de Keyser**



Declaration of Kyoto 2004 concerning the Academic and Social role of the Anatomical Sciences

Proposed by the Japanese Anatomical Association, and approved by the General Assembly of the International Federation of Anatomical Associations, at the Sixteenth Federative International Congress of Anatomy, Kyoto, Japan, 22-27 August 2004.

The Sixteenth Federative International Congress of Anatomy in Kyoto, this twenty-fifth day of August in the year two thousand and four, requests action by all Anatomical Associations/Societies (together with their appropriate educational groups) to develop and promote the progress of the anatomical or morphological sciences for the benefit of the health and well-being of all the people in the world. We hereby declare:

1. The Congress strongly reaffirms that anatomical and morphological sciences are, and should remain, key disciplines in modern biological and life sciences.
2. Anatomy is, and will remain, one of the cornerstones of the curriculum in medicine, dentistry, veterinary medicine and other life sciences, contributing a major part to the language of medicine. Anatomy must expand its frontiers further in the field of cell biology, developmental biology and neurobiology to correlate with advancements in modern bioscience, the ultimate goal being the understanding of the processes serving the functions of cells, organs and organisms.
3. It is incumbent upon the Associations/Societies of Anatomists to develop means whereby their respected members are increasingly involved in policy-making at all levels (institutional, local, state, national and international) in order to pursue innovation and thereby change anatomical and morphological sciences to fit contemporary, and future, needs in the world. Governments have a responsibility for the health of their people through the establishment of a series of task forces by the community of Anatomists.
4. Through the promotion of international scientific congresses and other meetings, the community of Anatomists should contribute to the development of academic vitality, as well as to better the quality of life.

The Congress and the International Federation of Anatomical Associations call upon all the aforementioned to collaborate in maintaining the discipline of anatomy in accordance with the spirit and content of this Declaration.

NOTE FROM THE EDITOR OF PLEXUS:

IN ACCORDANCE WITH THE SENTIMENTS EXPRESSED IN THE 2004 DECLARATION OF KYOTO, I WOULD LIKE TO APPEAL TO ALL ASSOCIATIONS TO PLACE "THE IFAA" AS AN ITEM ON THEIR AGENDAS AT MEETINGS OF THEIR EXECUTIVE COMMITTEES AND ANNUAL GENERAL MEETINGS. DISCUSSIONS EMANATING FROM THESE MEETINGS COULD BE PASSED ON TO THE EDITOR OF PLEXUS FOR DISCUSSION AND DEBATE IN THESE PAGES.

Federative International Committee on Anatomical Terminology

FICAT has lost a founder member in Liberato DiDio whose contributions, often very forceful but always valuable, will be sadly missed. He was also responsible for the creation of FICAT in 1989. FICAT salutes him.

FICAT has met on 10 occasions since the 1999 IFAA Congress in eight countries on five continents. While the committee was 19 in number, attendance has varied between 10 and 16 with an average of 13. Considerable financial support enabling these meetings to take place has been made available from many different sources. In particular, many societies provide funds allowing FICAT committee members to travel to meetings. FICAT wishes to express its thanks for this help.

Work has continued on both histology and embryology terminologies at these meetings with members working partly as one large group and partly as two subgroups dealing with histology and embryology separately. In both subject areas considerable outside expert advice has been sought.

The committee's work on histology, incorporating cytology, was completed in August 2003, and the list of terms was circulated to contacts as known to the IFAA in all member societies of the IFAA in late 2003. Societies were asked to provide feedback by the beginning of July 2004. FICAT thanks those societies who provided feedback, which has now been incorporated into the terminology. Following approval from the General Assembly and on the conclusion of negotiations with publishers, it is hoped that Terminologia Histologica will be published in 2005. It is anticipated that there will be both a book and an electronic form made available for purchase at the same time. FICAT continues to support publication in book form to ensure availability throughout the world.

The committee's work on embryology continues, with the expectation that it will be complete next year. On completion the draft will

be circulated to the member societies for comment, with publication planned for 2006/7. One new feature of Terminologia Embryologica is the inclusion of Carnegie Staging in the terminology.

When work on histology and embryology is concluded, FICAT intends to return to Terminologia Anatomica. A second edition will incorporate terms for structures as yet not included, and will accommodate the newer thinking for some structures. There are a number of small errors that need to be corrected. FICAT will also consult with some clinical colleagues, not so much to change terms as to add to the list where structures are as yet unnamed.

Some members of FICAT have retired, and three new members have been elected. Current membership is:

| | |
|------------------------|-----------------|
| David Brynmor-Thomas | UK |
| Wen-Qin Cai | China |
| Antoine Dhem | Belgium |
| Jan Drukker | The Netherlands |
| John Fraher | Eire |
| Raymond Gasser | USA |
| Jacques Gilloteaux | St Maarten |
| Georges Grignon | France |
| Rolando Cruz Gutiérrez | Costa Rica |
| Duane Haines | USA |
| Lev Kolesnikov | Russia |
| Beverley Kramer | South Africa |
| Keith Moore | Canada |
| Alessandro Riva | Italy |
| Harumichi Seguchi | Japan |
| Pierre Sprumont | Switzerland |
| Lutz Vollrath | Germany |
| Colin Wendell-Smith | Australia |
| Ian Whitmore | UK |

Ian Whitmore
Chairman

CONSTITUTION OF THE INTERNATIONAL FEDERATION OF ASSOCIATIONS OF ANATOMISTS

(Amended on August 25th, 2004, during the General Assembly of the XVI Federative International Congress of Anatomy, held in Kyoto, Japan. The original IFAA Constitution was published in *Acta Anatomica*, 138: 273-278, 1990)

Chapter I

Name and Objectives

Article 1

- (1) The name of the society shall be the "International Federation of Associations of Anatomists" hereafter called IFAA.
- (2) The purpose of the IFAA shall be to assemble the national and multinational anatomical associations that request membership and are approved as members.

Chapter II

Headquarters and Purpose

Article 2

The IFAA shall have its headquarters at the institution of the Secretary-General.

Article 3

The aims of the IFAA shall be the following:

- (a) To further the development, and to promote progress of all anatomical or biomorphological sciences.
- (b) To encourage and increase scientific, technological, educational and administrative exchanges among anatomists worldwide.
- (c) To provide general guidelines for educational, technological and scientific purposes and for issues of general interest to anatomical sciences.
- (d) To coordinate and support the preparation, revision and publication of documents on the terminology of the anatomical sciences and biomorphology.
- (e) To stimulate friendship and cooperation among members of associations of anat-

mists.

- (f) To promote international scientific congresses, symposia and other meetings of anatomical and morphological sciences.

Chapter III

Assets

Article 4

The assets of the IFAA shall be the following:

- a) Membership dues proportional to the number of members paid by the Associations or Societies of Anatomists.
- (b) Income received as a result of its activities.
- (c) Income from publications.
- (d) Physical resources of the IFAA.
- (e) Any other resources obtained.

Chapter IV

Membership

Article 5

The members of the IFAA shall be the Associations of Anatomists, national or multinational, Anatomical Societies, and those which apply for membership and are admitted to regular status. Membership is contingent upon payment of the annual dues, as determined by the General Assembly.

Associations that do not pay the annual dues, and are in arrears for two years, cannot be considered members of the IFAA and their representatives are not eligible to attend or vote at meetings of the General Assembly. Where an Association has difficulties in paying its dues for good reason, the Association must explain the reasons in writing to the IFAA Treasurer who can advise the Executive Committee about the Association's membership status.

Chapter V

Administrative Organs

Article 6

The organs of administration of IFAA shall be the following:

- (1) The General Assembly
- (2) The Executive Committee

General Assembly

Article 7

The General Assembly shall represent the universality of the members of the IFAA and its decisions shall be final.

Article 8

The General Assembly shall be made up of representatives of every Member Association as determined in Article 5. Each Association shall appoint two named representatives for a five-year term, renewable once. Each Association shall have only one vote. The members of the Executive Committee attend the sessions of the General Assembly without the right to vote. The President of the session shall have the tie-breaking vote.

The representatives may be changed during their term of office by their Association, the Secretary-General being informed in writing of such changes.

The representatives may be contacted by the Secretary-General, acting on behalf of the Executive Committee, to vote on policy issues, including Constitutional matters (in line with Article 29). In such cases, the representatives are required to consult with their Association in order to decide its vote.

Article 9

The session of the General Assembly shall be chaired by the President of the IFAA, who shall have as a recording secretary one of the secretaries of the IFAA.

Article 10

The General Assembly shall make decisions on the following matters:

- (a) Election of the President of the IFAA and of the members of the Executive Committee for a five-year term, beginning at the time of a Federative International Congress. Re-election is possible once.
- (b) Ratification of any alterations of the IFAA Constitution.

- (c) Creation and dissolution of Federative International Committees and approval of their rules and reports. All members of Federative International Committees are recommended by the Executive Committee and approved by the General Assembly. They serve for a term (usually 5 years) that begins at the time of the Federative International Congress. Members are eligible for re-election. Each Committee shall nominate its Chair and Secretary. Subsequently, the Chair shall be approved by the Executive Committee and then by the General Assembly *ad referendum* (i.e. via its representatives).
- (d) Ratification of Federative Committees appointed *ad referendum* of the General Assembly by the Executive Committee.
- (e) Approval of the reports on activities, budget and balance.
- (f) Determination of the amount of annual membership dues.
- (g) Approval of admission to membership of Associations of Anatomists.
- (h) Approval of the place, date and designation of the President of subsequent Federative International Congresses upon proposal of the Executive Committee.
- (i) Deliberation on all matters submitted by the Executive Committee or by any member of the IFAA.

Article 11

- (1) The final decision on the election of the place, date and President of Federative International Congresses shall be made by the General Assembly after having received the list of candidatures inscribed in the agenda.
- (2) Each candidate to host a Federative International Congress shall have ample time (approximately 10 minutes) before the vote to provide information on the organization of the meeting.

Article 12

- (1) The sessions of the General Assembly are to be held at each Federative International Congress of Anatomy, when the majority of its members is present, and it shall begin 30 minutes later with any number of its members.
- (2) The decisions of the General Assembly shall be by secret ballot and majority vote.
- (3) The agenda of the General Assembly shall be sent by the Executive Committee to each member of the IFAA at least three

months prior to the beginning of the session. It shall bear (A) the name and address of the persons presented for election in the Executive Committee, (B) the name of the Associations and of the places candidating for organization of the subsequent Federative International Congress, (C) the name of the Associations applying for membership of the IFAA, and (D) indications of any Constitutional changes needed to be ratified by the General Assembly..

Article 13

The Executive Committee administers the IFAA.

Article 14

- (1) The Executive Committee is made up of the President, the Vice-President, the Secretary-General, two Secretaries, a Treasurer, and the Chairs of Federative International Committees. They are elected by the General Assembly for a term of 5 years, renewable once.
- (2) The President assumes duties following her/his election at the termination of the Federative International Congress.
- (3) The decisions of the Executive Committee are made up of the majority of its members, the President having the privilege to break tie votes.

Article 15

The duties of the President in her/his absence of the Vice-President) shall be:

- (a) To represent the IFAA at all events.
- (b) To preside over the sessions of the General Assembly and of the Executive Committee.

Article 16

The duties of the Secretary-General shall be:

- (a) To substitute for the Vice-President in her/his absence.
- (b) To ensure that the decisions of the General Assembly and the Executive Committee are executed.
- (c) To monitor the daily routine activities of the IFAA.
- (d) To prepare the report of the activities of the IFAA.

Article 17

The duties of the Secretaries shall be to record and prepare the minutes of the sessions of the General Assembly and of the Executive Committee as well as to substitute the Secretary-General and/or the Treasurer in cases of ab-

sence.

Article 18

The duties of the Treasurer shall be:

- (a) To take responsibility for the resources of the IFAA.
- (b) To collect and deposit the income into bank accounts of the IFAA.
To prepare a balance sheet of accounts of the IFAA.
- (d) Three months prior to the General Assembly of the IFAA, to appoint auditors to examine the IFAA's financial statements.

Article 19

Besides its meetings during a Federative International Congress, the Executive Committee will annually hold ordinary meetings between successive Congresses. Extra-ordinary meetings of the Executive Committee may be held at other times at the request of two or more of its members.

Article 20

The duties of the Executive Committee shall be:

- (a) To prepare, and send out at least three months in advance, the agenda of the forthcoming General Assembly session.
- (b) To obtain funds and financial support for the IFAA.
- (c) To recommend the amount of annual membership dues.
- (d) To receive applications from candidates seeking to organize Federative International Congresses.
- (e) To announce and publicize the Federative International Congresses.
- (f) To receive applications of Anatomical Associations for membership to IFAA.
- (g) To give publicity to directories and newsletters of the IFAA.
- (h) To support, financially, all publications of the IFAA.
 - (i) To publish the report of activities, prepared by the Secretary-General, and to submit the balance sheet of accounts, prepared by the Treasurer.
- (j) To nominate the members of the Executive Committee.
- (k) To keep and update the inventory of historical resources.
- (l) To take initiatives of general interest and implement resolutions approved by the General Assembly.
- (m) To designate, for approval by the General Assembly, the President, the place and

date of the following Federative International Congress.

Article 21

- (1) The Executive Committee may on request coordinate activities among Anatomical Associations.

Article 22

- (1) The Executive Committee may propose appointments of specialized Federative Committees *ad referendum* of the General Assembly.
- (2) Each specialized Federative Committee shall be comprised of representatives of as many Associations of anatomists as possible, provided they are members of IFAA.

Article 23

- (1) In the absence of the President, her/his functions shall be performed temporarily by the Vice-President. The same applies to the Vice-President, who shall be represented by the Secretary-General. The same applies to the Secretary-General who shall be replaced by one of the Secretaries.
- (2) In case of the resignation or incapacitation of the President, her/his function will be taken over by the Vice-President. In case of the resignation or incapacitation of the Vice-President, her/his function will be taken over by the Secretary-General. In case of the resignation or incapacitation of the Secretary-General or the Treasurer, their functions shall be performed respectively by the Treasurer or by one of the Secretaries until the end of the subsequent Federative Congress.

Chapter VI

Federative International Congresses

Article 24

Applicants to organize a Federative International Congress shall mail their proposal, including the site, date and name of the President to the Secretary-General, at least seven months before the beginning of the next Congress.

Article 25

- (1) The President of the Federative International Congress shall be nominated by the respective Association of Anatomists in whose country(ies) the Federative International Congress will take place. She/he shall begin her /his term after her/his election by the General Assembly and she/

he shall complete it on the last day of the Congress.

2. Federative International Committee will be established to monitor the progress of preparations for the upcoming Federative International Congress, in order to assist the President of the Congress and to support any local organizing committee. The President of the Congress shall serve *ex officio* as the Convenor of the committee, which normally should include three members of the IFAA Executive Committee and three members the local organizing committee.

Article 26

The IFAA shall meet during a Federative International Congress every four or preferably five years. The current term of the elected officers shall also be reduced to correspond to the interval between successive Congresses.

Chapter VII

Limitation of Action

Article 27

The IFAA shall not lend any part of its income, without the receipt or adequate security, and shall not pay any compensation for salaries, honoraria or gratuities to any of its officers for personal services rendered. The officers shall serve on a voluntary basis.

Chapter VIII

Termination

Article 28

- (1) By proposal of the Executive Committee, the General Assembly may decide to terminate the IFAA by two-thirds of its members present and voting.
- (2) Upon dissolution of the IFAA, the Executive Committee shall distribute the assets to the Members according to the decision of the General Assembly.

Chapter IX

Amendments

Article 29

Between Federative International Congresses, and with the approval of the Executive Committee, the Constitution can be amended by at least two-thirds majority vote of the IFAA representatives. All Constitutional changes must subse-

quently be ratified by at least two-thirds majority vote at a General Assembly of the IFAA.

Chapter X

Unforeseen Cases

Article 30

Cases not considered by this Constitution shall be decided by the Executive Committee and,

when necessary, *ad referendum* of the General Assembly.

Amended and approved by the General Assembly
Kyoto, Japan (August 25, 2004)

Prof. Bernard Moxham
Secretary-General

UPDATE ON ANATOMY & TEACHING IN THE ANATOMICAL SCIENCES

The FEDERATIVE INTERNATIONAL COMMITTEE ON ANATOMICAL EDUCATION (FICAE, 2000-2004)

The following colleagues were elected to FICAE membership by the IFAA Business meeting during the XV International Congress of the IFAA, Rome, 1999):

* Richard L Drake, Mme Chantal Kohler,
*Jan Drukker, D Gareth Jones,
† Sandy Marks, *John F Morris,
*Jan H. Meiring, *Colin D Ockleford,
* Reinhard Pabst, Kohei Shiota,
Charles E Slonecker, *Pierre Sprumont.

† Regrettably Professor Marks passed away during this term. We regret that we could not take more advantage of his membership. The colleagues marked * are re-eligible for the 2004/08 term. We found three colleagues willing to join our ranks, Mrs Helen Nicholson (New Zealand), Peter Groscurth (Switzerland) and Mitsuhiruo Kawata (Japan).

A call in the IFAA Newsletter did not lead to new candidates. Hopefully some enthusiastic, creative, experienced and potentially productive colleagues with relevant expertise can be found during the XVI IFAA Congress.

A Vision-Mission-Strategy statement on the role of FICAE in the IFAA was discussed dur-

ing the XV Congress, adopted by the complete membership of FICAE and published in the IFAA Newsletter. Regrettably it did not elicit constructive activities.

FICAE has circulated yearly reports which had almost exclusively the character of a (very primitive and incomplete) newsletter on anatomical aspects in medical education. The symposium on the Teaching of Anatomy during the XV International Symposium on Morphological Sciences (Sun City, S.A. 2001) took place under the auspices of FICAE (which had only a formal, not a material effect).

FICAE did not ask for any budgetary support by the IFAA (or any other source), which is to be considered an ominous sign. Generally soft coordination does not pay, more can be expected of hard coordination (i.e. on the basis of a significant budget).

During the next term FICAE viability is to be enhanced by a well defined plan of activities.

Professor Jan Drukker

Teaching in the 21 century: Changing Paradigms in Teaching Anatomy

The "Teaching Workshop" at the CAANCB meeting in Vancouver was well attended and stimulated much discussion by all those participating. The workshop focussed on the challenges facing students learning anatomy in rapidly changing curricula. Dr. Majid Doroudi introduced the session by reviewing some of the trends in Anatomy programs in the last few years. These include a reduced number of formal lectures and laboratories, a reduced number of trained staff available for instructing, and reduced budgets. This brief introduction was followed by four presentations.

The first speaker, Dr. Joanna Bates, discussed the new "distributed model" of medical education being introduced at UBC this year and the challenges the program has presented to students for learning anatomy. The total class size has increased from 128 to 200 students this year. All students spend the first four months at UBC, and then 28 will go to each of UVic and UNBC for the remainder of their undergraduate training while the rest stay at UBC. New anatomy facilities, which include dissection rooms and multipurpose laboratories, have been constructed at each site and all sites are linked by high speed information technologies to enable presentations at one location to be transmitted (video and audio) to the other sites. A "virtual slide-box" has been created for histology to augment "hands-on" microscope training. For Gross Anatomy, dissection has been front-loaded in the curriculum and the learning of some regions (limbs and selected regions of the head and neck) will be augmented with plastinated prosections.

Dr. Wayne Vogl, discussed the philosophy behind the production of a new textbook of anatomy, Gray's Anatomy for Students by R.

Drake, W. Vogl and A. Mitchell (Elsevier publishing). The book is user friendly and is designed for use by students that have reduced numbers of laboratories and lectures. The text is regional in approach and each chapter has four sections: Conceptual Overview, Regional Anatomy, Surface Anatomy, and Clinical Cases. The artwork is new, and is designed to build conceptual understanding as well as to be a framework for adding detail.

Dr. Don Jenkins provided an update of the use of the Visible Human Project and highlighted the potential value of this resource in medical education. He outlined the participation of a number of universities in constructing education "tools" from the original databases and the use of the database to generate a "virtual patient" and a "virtual soldier".

Dr. Scott Lozanoff reported on the use of information technologies to produce a "virtual environment" for one of the cases in the problem-based curriculum at the University of Hawaii. Wearing special head-gear, students can put themselves into the virtual environment of the case and collect basic information from the patient and perform tasks.

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American Association of Anatomists Annual Meeting Combines Scientific Conference with Teaching Forum

The American Association of Anatomists' (AAA) 2005 Annual Meeting (April 26 in San Diego) will open by offering a clean slate for the anatomy program of the future and asking: If we were building an anatomy syllabus from scratch, what would we teach and how would we teach it?

This year's Education & Teaching Track will cover four full days, combining the traditional focus of teaching substance with an in-depth look at the present and future of who is doing the teaching and how anatomy is being taught.

In a special workshop called *Anatomical Sciences De Novo*, participants will have the opportunity to plan an anatomy teaching program as if none had ever existed before. Workshop conclusions will be presented and discussed further in Monday morning's *Anatomy Education Breakfast Roundtables*. Two additional sessions—*Endangered Species: Who Will Teach Anatomy in 2010?* and *Anatomy Education: Teach Now or Pay Later*—will consider where future anatomy educators will come from and look at the potential impact of *not* teaching anatomy early on in the medical school curriculum.

Moving from structure to curriculum content, AAA's *Integrative Master Class* series spotlights the cardiovascular system, while two new *Refresher Courses* provide updates on birth defects caused by environmental defects and how to integrate basic and clinical concepts in teaching histology. And, acknowledging the popular U.S. TV series, we'll turn one session into *CSI San Diego* to bring you up-to-date on applied anatomy in physical and forensic anthropology.

Apart from an exciting Education & Teaching program, the AAA Annual Meeting offers a strong scientific program of symposia, platform sessions, and posters, with an extensive exhibit featuring state-of-the-art equipment and the latest publications.

Following last year's successful introduction of a new mini-meeting—a meeting-within-a-meeting—AAA continues the format in 2005 with *The Development of Sensory Systems*. This two-day mini-meeting, featuring a separate poster session, will look at regional identity and induction, neurogenesis, cell migration and polarity, and axon guidance and synaptogenesis, providing lots of time during and between sessions for quizzing participants and catching up with colleagues.

If your work touches on other biomedical disciplines, the whole world of Experimental Biology is open to you. There are also lots of opportunities to mix, mingle, and network with AAA colleagues from around the world, including the Annual Meeting Socializer, the AAA Awards Banquet, the ongoing "ChatRoom" in the AAA Office, and impromptu discussions in between sessions.

You'll find the updated AAA programme on AnatomyLink (www.anatomy.org), along with details on how to register, make hotel reservations, and submit a late-breaking abstract—the late-breaking deadline is February 11. For additional information or assistance, contact us at exec@anatomy.org or 301-634-7910.

American Association of Anatomist's Education Website Enhances Teaching Resources

With education and teaching excellence high on the list of strategic priorities for the American Association of Anatomists (AAA), the Association has created an Education Web component that will be an instrumental resource for members. The Education Website is intended as a teaching tool for faculty, enriching lesson plans and exams, and as a general resource for research and clinical questions.

Key features of the Education Website include:

- An **Ask the Expert** section that allows members to post questions to selected experts. Once a question is posted, it is assigned to an expert who will respond within seven days.
- A **Virtual Organ Image Library** with categorized links to other image databases, plus some organ images donated by members that can be previewed and downloaded. Add your favorite image resource to our ever-growing list!

- An **Exam Question Database**, password-protected and available only to faculty members. If you have some outstanding exam questions that you think would make a good addition to the AAA database, you can submit them directly through the Exam Question area of the Website.
- An expanded **Career Center** will allow members to post their resumé for a specified time. This section will also include internship opportunities and other career information.
- An **Education Listserv** allows members to communicate with each other and track discussions for future reference. Let us know if you would like to participate!

To view these resources, go to the AAA's AnatomyLink (www.anatomy.org) and click on "Education & Teaching Tools." To contribute any materials, please use the appropriate online form. If you have any questions or feedback, please contact Angela Benson, Member Services & Marketing Manager at 301- 634-7910 or abenson@anatomy.org



The Anatomy Lesson of Dr Tulp:
Rembrandt

Medical Humanities and Ethics Group

One of the decisions taken by the IFAA executive committee at its meeting in Kyoto was to establish a Medical Humanities and Ethics Group, which I was asked to chair. Although this group is in its very early stages, since I am currently setting it up, it might be useful to canvas the membership as to what some of the major issues are for anatomists.

As I look back 20 years I am struck by the manner in which attitudes towards ethics and ethical analysis have changed. When I arrived in New Zealand in 1983 to take up the Chair of Anatomy in the University of Otago, some people were extremely surprised to learn that an anatomist would have any interest in ethics. The underlying assumption appeared to be that there was nothing of ethical interest in anatomy. There may be in clinical medicine, but surely not in anatomy. After all, anatomists only deal with dead human bodies, and these are ethically neutral, or so it was thought. The histology slides of human material, the embryonic and fetal material, the human skeletons, the skeletal material of indigenous peoples groups, the Anatomy Museum with its extensive range of archival and recent human organs and body parts, let alone the experimental animals, all seemed to be accepted as of no ethical consequence. We were legally allowed to have them and study them, and that was it. The one thing one must not do is raise the issues as matters for debate, and certainly not talk about them too openly in public.

One can now look back on those days of 20 years ago, and wonder at the incomprehension of serious and reasonable anatomists who thought like this. They had somehow been able to isolate the professional practices in which they indulged from the remainder of their existences, permeated as they must have been by moral values and swirling ethical debates of strident intensity. And yet what was true of anatomy was undoubtedly true of many other disciplines and professions. This is no to say

that there was no awareness of ethical matters; of course, there was. But it tended to be highly focused and selective, and generally it lacked intellectual rigour.

And yet anatomists are in the thick of numerous debates involving the use of human tissue and organs. There have been far too many scandals in these areas, ranging from the removal of body parts at autopsy without consent, research on human tissue in the absence of appropriate consent, the unethical (and sometimes even illegal) disposal of body parts to external organizations, and the rights and wrongs of the public display of human cadavers. And then anatomists, in the guise of developmental biologists and embryologists, have indispensable roles to play in debates on the use (and even status) of early human embryos, with their expert knowledge on scientific issues surrounding the blastocyst, the pre-embryo, the primitive streak, and 'brain birth'.

What this cursory look at the relationship between anatomy and bioethical debate should underscore is that many of the bioethical discussions that are so crucial to modern societies touch at some point on human tissue. While bioethical debate is always a multidisciplinary one, anatomists should recognize that they too have a part to play. It is my hope that this new group (and I have not even mentioned the medical humanities) will be able to play a vigorous role in both informing anatomists about the debates, and also what contributions they can make, to them. Please let me know any perspectives you have or contributions you would like to make.

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Statement by the *Anatomische Gesellschaft* on the infamous Body-World Show of Dr Gunter von Hagens

The public dispute about the Body-World Show of Dr G. von Hagens urges the Council of the Anatomische Gesellschaft to publish the following statement:

The task of human anatomy is to analyse the structure of the body by dissection in order to gain insight into the general morphological pattern, function and dysfunction of man. Anatomists have to communicate the results of their investigations to students and medical doctors - and to all those who are interested in their own body and biology. Anatomical knowledge underpins contemporary medicine and is indispensable for understanding the structural and biological nature of mankind. Anatomical investigations follow strict scientific rules. Modern anatomy consists not only of macroscopic examination of the body, but, by using modern techniques, it also analyses cells and molecules as essential players in any physiological or pathological process. Dissections and gross anatomy courses are definitely required to understand and teach anatomy, but this macroscopic view is only the first part of the anatomical curriculum which embraces a "vertical" holistic approach, from the macroscopical level (including self-examinations and demonstrations on living subjects) to the cell biological and molecular, from the spatial dimension (systemic and topographic anatomy) to the temporal (embryology, evolutionary anatomy). This conceptual integration is central to the understanding and teaching of modern anatomy.

Those teaching anatomy need to capture the attention and interest of the students, but the engagement of an audience has to serve a genuine task - the transmission of knowledge; didactic principles cannot simply be borrowed from the spectacular anatomy of

the old days. To demonstrate contemporary scientific anatomy to the public it is necessary to combine concepts and dissections. This challenging task asks for sophisticated didactic methods and a commitment from both teachers and the audience.

As a medical discipline, anatomy has to respect a strict ethical code, anatomical dissections should only be performed with the written consent of the donor. Following this rule, the anatomical departments in Germany have developed non-commercial "willed body programs" allowing the donors to decide whether their remains are to be cremated and/or buried or may be used as permanent preparations.

The Body-World Show of Dr G. von Hagens severely violates these principles of the Anatomische Gesellschaft.

The Board of the Anatomische Gesellschaft: Prof. Dr B. Christ (Freiburg), Prof. Dr D. Drenckhahn (Würzburg), Prof. Dr R. Funk (Dresden), Prof. Dr B. Tillmann (Kiel), Prof. DR W. Kühnel (Lübeck) (Secretary), in co-operation with Prof. Dr H.W. Korf (Frankfurt/N) and Prof. Dr W. Neuhuber (Erlangen)*

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FORTHCOMING CONFERENCES

1. American Association of Anatomists Annual meeting at Experimental Biology: SAN DIEGO 2005

The Annual meeting of the American Association of Anatomists will be held at EB from April 2-6, 2005 in San Diego, California, USA. You'll find the updated AAA program on AnatomyLink (www.anatomy.org), along with details on how to register, make hotel reservations, and submit a late-breaking abstract—the late-breaking deadline is February 11. For additional information or

assistance, contact us at exec@anatomy.org or 301-634-7910.

(See also teaching section on page 13)



2. International Symposium on Morphological Sciences: BELGRADE 2005

The XVIII International Symposium on Morphological Sciences (ISMS) will be held in Belgrade from the 5 - 8th June, 2005.



The Symposium will be organized as plenary, platform and poster sessions as well as technical and commercial exhibitions. Gross, Microscopic, Molecular, Clinical and Applied Anatomy - Physical and Forensic Anthropology, Embryology - Imaging & Computer Tools - Didactic Advances will be addressed. Suggested topics by participants are welcome for consideration.

This will be the first time that the International Symposium on Morphological Sciences will be organized by one of the branches of the former Yugoslav Association of Anatomists. The Serbian Anatomical Society is honoured and delighted to have the opportunity to welcome anatomists, histologists, pathologists, cell and molecular biologists, geneti-

cists, developmental biologists, anthropologists, clinical anatomists, and other scientists involved in research on teaching anatomy, basic research as well as clinicians from around the world.

Web site address:

www.passport.zepter.co.yu/isms2005

Scientific Secretariat (information):

Malikovic and B. Stimec

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3. Asian-Pacific International Congress of Anatomists 2005

The 4th Asian-Pacific International Congress of Anatomists (APICA) will be held in Kusadasi, Turkey between the 7th - 10th September, 2005

Abstracts will be accepted online:
www.apica2005.org



Contact:

Professor Nedim Simsek Cankur

Chairman of the Organizing Committee

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4. The Congress of the International Federation of Associations of Anatomists travels to Africa in 2009

The Congress of the International Federation of Associations of Anatomists travels to Africa in 2009!

At the 16th International Congress of the IFAA held in Kyoto in 2004, two associations from opposite sides of the globe presented information in order to bid for the next Congress of the IFAA. Both the Anatomical Society of China and the Anatomical Society of Southern Africa presented exciting pictorial displays of their respective countries and gave reasons why the next IFAA congress should be held by their associations. This was indeed a difficult

decision for the voting members of the IFAA. The final outcome is that the next Congress will be held in South Africa. This will be the first time that an IFAA Congress will be held on the African continent. The Congress site will be the "Mother City", Cape Town (seen below). The Anatomical Society of Southern Africa takes this opportunity to invite you to experience the warmth of Africa and its people in 2009. Further details of the Congress will be posted in Plexus, on the WEB of the IFAA and on the Website for ASSA www.anat.org.za



Join us in experiencing the wonder of the fairest Cape

AWARDS AND HONOURS

Emeritus Professor Phillip V. Tobias Honoured

Professor Phillip Tobias, distinguished South African Anatomist, was recently honoured by the Department of Science and Technology of the Republic of South Africa when an eponymous lecture was initiated in recognition of his contributions to science.

"The contribution to research by Professor Phillip Tobias in the fields of genetics, through anatomical



studies to palaeo-anthropology is well known. It is this contribution that has led the Department of Science and Technology to establish an annual lecture, to be known as the Professor Phillip Tobias lecture. The idea is to invite prominent scholars in the science and technology field from all over the world to share their experiences and knowledge with the South African community", Mr Mosibundu Mangena, Minister of Science and Technology.

The inaugural Phillip Tobias lecture was delivered by Professor Sydney Brenner, 2002 Nobel Prize Winner for Medicine.

American Association of Anatomists Honours Cuervo, Catania, Mango for Superb Scientific Achievements

Mossman Award to Susan Mango



The AAA's 2005 Harland Winfield Mossman Award in Developmental Biology goes to Susan E. Mango, who will present an award lecture entitled *"Making and Shaping the Digestive Tract"* at the AAA Annual Meeting at EB 2005.

The award recognizes Mango's outstanding contributions to our understanding of *C. elegans* gut morphogenesis. Her ongoing re-

search focuses on the molecular genetic basis of three major developmental events: foregut organogenesis, temporal control of organogenesis, and tube formation. Nominator Gary Schoenwolf notes that, "based on her past accomplishments and enormous future potential, the University of Utah has recently nominated Dr. Mango as a Howard Hughes Medical Institute Investigator." Among Mango's other awards, are a Howard Hughes Medical Institute fellowship (1994-1995), an NIH postdoctoral fellowship (1993-1994), and the Basil O'Connor Starter Scholar Research Award from the March of Dimes (1997-1999).

The AAA's Mossman Award is presented annually "to recognize young investigators who have made important contributions to the field of developmental biology and have demonstrated remarkable promise of future accomplishments." Mango's award lecture will be on Monday, April 4 from 5-6 p.m. at the AAA Annual Meeting/EB 2005 in San Diego.

Ana Maria Cuervo Wins Bensley Award

Ana Maria Cuervo will receive the 2005 R.R. Bensley Award and present an award lecture on "Lysosomes and Aging: The Importance of Maintaining Clean Cells" at the American Association of Anatomists' (AAA) Annual Meeting during EB 2005.



The award to Cuervo recognizes her contributions to the understanding of molecular mechanisms of cellular autophagy. Particularly impressive are her studies of lamp2a, a receptor for chaperone-mediated autophagy, which she and mentor J. Fred Dice discovered. Her investigations on this protein have led to a new understanding of this

pathway of protein degradation, and an integration of autophagic processes into larger problems of cell homeostasis, including aging and neurodegeneration. As nominator Peter Satir notes, "She is a master of cell biological techniques...and a superb lecturer who really packs a wallop into an hour."

Among her other honours, Cuervo received the American Liver Foundation Postdoctoral Research Award (1997), the Zucker Research Center for Women Scholars Award (2000), and the Howard Hughes Medical Institute Biomedical Research Junior Faculty Start-up Award (2001).

The AAA's Bensley Award is presented annually for "distinguished contribution to the advancement of anatomy, through discovery, ingenuity, and publications in the field of cell biology." Cuervo's award lecture will be presented on Tuesday, April 3, from 5-6 p.m. at the AAA Annual Meeting/EB 2005 in San Diego.

Kenneth Catania Honoured with Herrick Award

The AAA's 2004 C.J. Herrick Award goes to Kenneth C. Catania, who will present an award lecture on "General Principles from Specialized Species: What Star-Nosed Moles Tell Us about Brains, Behavior, and Evolution" at the AAA Annual Meeting at EB 2005.

The award recognizes Catania's outstanding contributions to the field of comparative neurobiology. According to nominator Vivien Casagrande, Catania became fascinated by the star-nosed mole while working as a research assistant for the National Zoological Park in Washington, D.C. His studies of the 22 finger-like appendages protruding from the mole's nose revealed their importance in somatosensory processing and provided a



unique model for precise studies of how cortical areas related to each other anatomically and physiologically. Expanding his research to other mammals, Catania has completed the most extensive study of cortical organization in shrews and, says Casagrande, has published the first truly new findings on the organization of somatosensory cortex of rats in 30 years.

Among his other honours, Catania received the International Society of Neuroethologists Young Investigator Award (1998) and the National Science Foundation Career Award (2003-2008).

The AAA's Herrick Award is given annually "to recognize young investigators who have made important contributions to the field of comparative neuroanatomy and have demonstrated remarkable promise of future accomplishments."

Catania's award lecture will be presented on Sunday, April 5, from 5-6 p.m. at the AAA Annual Meeting/EB 2005 in San Diego.

The 16th Congress of the IFAA: Kyoto 2004

Report back: Kyoto 2004

On Sunday, August 22, 2004 over 1500 anatomists were welcomed to the 16th International Congress of the IFAA at the Kyoto International Conference Hall. The Opening Ceremony was attended by Their Majesties, the Emperor and Empress of Japan. We were all greatly honoured by their presence. The Emperor, His Majesty Emperor Akihito (who is a biologist by training), addressed the participants on the history of anatomy and the importance of international exchange for the advancement of science. His Majesty also mentioned that the first dissection of the human body in Japan was performed by Yamawaki Toyo in the city of Kyoto where the 16th Congress was being held. The Co-President of the 16th Congress, Dr Nobutaka Hirokawa, welcomed all the participants and Dr Chizuka Ide, Chairman of the Organising Committee declared the Congress open. Professor David Brynmor Thomas, President of the IFAA delivered a welcoming address (see page 24). This was followed by a reception. Old friendships were renewed and new ones initiated. Seen at the reception were:

Professor L. Volraath (Germany) and Professor I. Whitmore (UK and USA, in an Anatomical Society of Southern Africa tie!!!)



Professor M. Ifrim and Professor R. Matuz of Romania



The Opening Lectures which followed the reception, set the tone of the Congress with excellent presentations. The first lecture was by Dr Kai Simons of the Max-Planck Institute of Molecular Cell Biology and Genetics, Germany who spoke on the structure and function of the lipid raft. The Presidential Lecture was given by Dr Nobutaka Hirokawa of the Department of Cell Biology and Anatomy, Graduate School of Medicine, University of Tokyo, Japan on molecular motors, kinesin super-family proteins, KIFs and the mechanism of intracellular transport.

The main theme of the 16th Congress was "Morphological Science as the Basis of New Life Science in the 21st Century". Numerous papers at the frontline of research were presented, and the daily poster sessions were packed with eager scientists discussing and exchanging valuable information.

The Congress Banquet was held on the night of August 25th in the Kyoto Hotel Okura. Congress participants were treated to a performance of traditional Japanese comic theatre called Kyo-gen. It was a time to relax and socialize, as can be seen in the following photographs:

Professor D. Brynmor Thomas (President of the IFAA) and Professor Murray Smith flanked by Dr John and Mrs Kate Fraher



Seen in the photograph are an "anastomosis" of anatomists or is it a "plexus" of anatomists, a "body" or even a "cerebrum" of anatomists ??? (what *should* the collective term for anatomists be anyway????!! Please make some suggestions to the Editor). Some of the anatomists who could be identified in the photograph are (with apolo-

gies to those who are not identified), back row: Professor Beverley Kramer (South Africa), Professor Xu Qu Yang (China), Professor Chizuka Ide (Congress Organiser (Japan), and on the far right, Professor Bernard Moxham (UK). In the front row are: Mrs Elizabeth Brynmor Thomas, Professor



David Brynmor Thomas (President, IFAA), Professor Nobutaka Hirokawa (Co-President 16th Congress), Professor Fujita, Professor Hiroshi Hirano (Co-President 16th Congress).

An extract from the opening address to the 16th Congress of the IFAA by the President of the IFAA, Professor David Brynmor Thomas

It is a very great pleasure for me to return to Kyoto to participate in the Sixteenth Federative International Congress of the International Federation of Associations of Anatomists. The second such congress to be held in Japan and the first to be held since the Federation celebrated its hundredth birthday.

The theme of the congress accurately reflects the current scope of research and teaching in the morphological sciences, which encompasses the co-ordinated organization of the living body down to its smallest sub-molecular components, throughout the development of the individual and the evolution of the species, utilizing all of the most appropriate methods available for marking, imaging and recording, while exploiting all of the most rewarding techniques available for quantitative as well as qualitative analysis and interpretation and taking full account of responses to perturbation and susceptibility to manipulation, in order to establish a adequate basis for increasingly challenging clinical practice as well as to

define and integrate the mechanisms which regulate and modify the dynamic equilibria upon which organization is dependent.

Throughout the congress attention will appropriately be focussed upon cells, which are the units of organization, activity and derangement in living organisms. Inevitably careful consideration will be given to the implications of exciting developments in the biology of stem cells, which sustain the establishment, growth, renewal and regeneration of living tissues and must be expected to serve a pivotal role in cell replacement therapy.

I also anticipate with pleasure the consolidation of established friendships and the initiation of new friendships which will occur during the Congress. Friendships which will endure and inevitably facilitate the collaborative programmes, which are essential prerequisites for the effective conduct of investigations that grow ever more demanding and exacting as they become ever more sophisticated and rigorous.

IFAA. Kyoto 2004: Presidential Lecture. *Stem cell replacement therapy. Is the dream about to become a reality?*

After a century of enlightened speculation about the earliest precursors of blood cells which initiate and subsequently sustain haematopoiesis, followed by a decade of rigorous complimentary investigation, the ability of transplanted blood cell precursors to re-establish haematopoiesis in irradiated recipients was established by 1956. During the two ensuing decades the clinical applications of haematopoietic cell transplantation were carefully evaluated and by 1976 its potential value in the treatment of haematopoietic insufficiency had been recognized. Within one further decade haematopoietic cell replacement therapy (HCRT) was widely available and was being confidently exploited. By 1988 the number of patients receiving HCRT already exceeded 4000 per annum and the total number of haematopoietic cell recipients exceeded 20,000.

In due course the use of blood cell precursors harvested from the bone marrow or from fetal liver was superseded by the use of cells harvested from the blood, initially from adult blood containing mobilized cells and subsequently from placental blood. HCRT was now being used as an adjunct to cytotoxic drug therapy in the treatment of leukaemia and solid tumours, as well as in the treatment of hypoplastic anaemia, immunodeficiency syndromes and occasionally in other conditions including osteopetrosis. A decade later embryos were being successfully infused *in utero* and blood cell precursors were being used as vehicles for the introduction of genes. Precise information was being accumulated about the multipotent haematopoietic stem cell, which was accepted as the common precursor of all the blood cell lineages but it had not yet been implicated in the production of other cell populations. This situation was about to change.

In 1997 it was argued that the precursors of blood cells and the precursors of hepatocytes are the closely related progeny of a single population. Soon differentiating cells derived from infused bone marrow suspensions were being described in endothelium, liver, lung, muscle and nervous tissue. Previously unexpected relationships between haematopoietic stem cells and cells derived from all three germ layers, including precursors of liver cells, endothelial cells, muscle cells, neu-

rons, glial cells and primordial germ cells were suggested, and exciting possibilities were envisaged for the development of stem cell replacement therapy (SCRT).

But **occasional** cells of donor origin, which appear to be differentiating in conformity with the pattern exhibited by indigenous cells in the host tissue, do not necessarily persist as self-maintaining populations capable of sustaining the functions of the cell population which they have joined - essential prerequisites for the success of any form of SCRT, which are fully satisfied by HCRT. Their significance awaits further critical assessment, suggested cellular relationships await comprehensive evaluation and the balance between cellular multipotency and environmental multiplicity in stem cell differentiation awaits clarification.

The persistence of donor cells following transplantation should focus attention not only upon the identification of such cells but also upon :

- their functional status
- their kinetic status
- their precursors
- their incidence and distribution
- the factors affecting their relocation
- changes following relocation and evidence of cell fusion, including the formation of heterokaria and the occurrence of potentially dangerous aneuploid heterokaria.

Suggestions that apparent stem cell plasticity might be due to the fusion of labelled donor cells with host cells were dismissed initially. But the use of host specific markers, in addition to donor specific markers and cell specific markers, has now revealed the formation of hepatocytes, skeletal muscle fibres and neurons, among which heterokaria that have derived markers from both the donated cells and the cells of the host reflect the fusion of donor cells with host cells. It has thus become clear that cellular plasticity which is dependent upon trans-differentiation or de-differentiation and the apparent plasticity which may be a manifestation of cell fusion are complementary sequences, both of which may be important in development as well as during regeneration and both of which may have potentially valu-

able roles in cell replacement therapy.

For the time being uncertainties will inevitably persist about widely accepted notions relating to the ontogeny of cell populations. But rapid empirical development of SCRT is unlikely to be inhibited and attempts are already being made to take full advantage of readily harvested stem cell populations for this purpose. The ability of infused bone marrow cells and cells derived from pre-implantation embryos to promote substantial improvements in ventricular function following myocardial infarction; to correct defective hepatic function in an animal model of tyrosinaemia; to establish effective osteoclast function in osteopetrosis and to contribute to the generation of Purkinje neurons in the cerebellum, are a few examples of pointers to developments which can reasonably be encouraged, provided that their clinical exploitation is rigorously monitored to generate reliable information about:

- the therapeutic benefits conferred by any attempt to utilize transplanted cells,
- the behaviour of cells following transplantation including their ability to respond to regulatory mechanisms,
- any threats generated by transplanted cells to the well being of the recipient, the possibility that the functional contributions of transplanted cells can be matched by indigenous cells.

Such information would clearly contribute to the establishment of stem cell biology as a rigorous science, capable of serving as an adequate basis for the effective development and utilization of stem cell replacement therapy.

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INFORMATION FROM MEMBER ASSOCIATIONS

Anatomical Society of Southern Africa Invitation to the Cape of Good Hope

Had Andreas Vesalius not died in 1564 at the age of 50, he would have been 148 years old when Jan van Riebeeck first set foot in April 1652 on the beaches of what is now known to be Cape Town.

The Anatomical Society of Southern Africa, serving more than ten Anatomy Departments in the southern part of Africa, has recently won the bid at the 16th IFAA meeting in Kyoto, to present the 17th International Congress of the IFAA in Cape Town, South Africa, during 2009. We would like to extend a special invitation to anatomists from all over the world to attend and participate in this unique event, as this will be the first IFAA meeting held on the continent of Africa.

In addition, we will offer breathtaking tours to the well-known Kruger National Park with the big five (elephant, lion, leopard, buffalo and rhino); to Robin Island where Nelson Mandela was incarcerated for 28 years; to the picturesque Garden Route through the Knysna rain forest with majestic Yellowwood trees; to the Cape wine route; to whale-spotting at Hermanus and of course Table Mountain to name but a few places of interest.

The scientific content of the Congress will obviously follow the same trend as at the Kyoto Congress. We hope to make this conference an unforgettable experience for you and the accompanying person you wish to

bring along.

Hope to see you in the Cape of Good Hope in 2009!

**Professor Jan Meiring
President**

ANZACA

A very successful inaugural meeting of the Australian and New Zealand Association of Clinical Anatomists was held at the University of Melbourne on 1 October 2004. About 40 anatomists and clinicians from Australia and New Zealand were present at what proved to be a significant occasion. The talks provided everything from reasons why this new society is required, through a range of educational and clinical anatomical matters, with the final session illustrating in dramatic fashion the relevance of anatomy in plastic surgery. A constitution was agreed to, including a name for the Association. The aims of the Association include the provision of a forum for debate in clinical anatomy and related disciplines, and for advancing clinical anatomy and other anatomical sciences, by bringing together active researchers, educators, and clinicians. It is envisaged that the Association will link up with other Clinical Anatomy Associations, and also with the International Federation of Anatomical Sciences. Meetings will be held annually. The inaugural president is Professor Helen Nicholson of the Department of Anatomy and Structural Biology at the University of Otago (helen.nicholson@stonebow.otago.ac.nz).



Studies for the Libyan Sibyl: Michaelangelo Buonarroti

PLEXUS CONTRIBUTIONS:

Plexus is intended for staff and students of all member Societies of the IFAA. Should you receive a copy, please distribute as widely as possible in order to inform all members of the events and issues covered by the IFAA and its member Societies.

Contributions will be gratefully accepted. Please submit all the information either by email or a disc to:

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