

THE PHYSIOLOGIST



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EDITORIAL

A Capitol Idea

Unlike my predecessors, my President-Elect tour did not take place until after I had been installed as the Society's President. In the past such tours traditionally involved visits to undergraduate campuses, foreign institutions, or other professional schools. For my tour, however, I chose to visit the marbled halls of Congress accompanied by Marty Frank and Bill Samuels from the APS office.

The tour was conducted last September with specific objectives in mind. The first was to thank those members of the Congress who have supported the American Physiological Society's views in issues concerning biomedical research and education. Second, I wanted to urge my own Minnesota delegation to support a joint Congressional resolution that would designate March 29–April 3, 1987, as "American Physiologists Week."

On the whole, the tour proved to be an enlightening experience, but not without some misgivings, as I soon learned that most members of the Congress know less about physiology and scientific issues than Bill Samuels and Marty Frank know about the operations of the Congress.

Scientists, by and large, seldom interact with elected officials in the Congress. Although some scientists correspond with his or her elected officials, few scientists have actually met with the members of his or her Congressional delegation. Yet, in every session of the Congress the senators and representatives vote on scientific issues, most often without a clear understanding of the issues.

The scientific community is selling itself short by not keeping elected officials

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Teaching Physiology in Africa

Heinz Valtin

*Treasurer, International Union of Physiological Sciences;
Chair, Renal Commission of IUPS*

This conference, which was initiated by the Renal Commission of IUPS approximately three years ago, was held under the joint sponsorship of IUPS (its Renal Commission and its Committee on International Projects) and the International Society of Nephrology (ISN). The conference was hosted by the Kenya Kidney Foundation and the Kenya Physiological Society and organized and directed under the able leadership of Dr. Mohammed S. Abdullah. Dr. Abdullah is the Secretary-General of the Kenya Kidney Foundation as well as Chair of the Kenya Medical Research Institute (KEMRI).

There were approximately 125 participants representing eight African nations: Kenya, Tanzania, Uganda, Zambia, Sudan, Egypt, Ethiopia, and Nigeria. Most of the participants teach various phases of medicine—physiology and other basic sciences, medicine, surgery, pediatrics, pathology, and others—in the medical schools of their respective countries. Residents and nurses, mostly from Nairobi, also participated. The international faculty from outside of Africa were R. W. Schrier, Treasurer of ISN and Chair of Medicine at the University of Colorado; Anthony R. Clarkson, Director of Nephrology, Royal Adelaide Hospital, Australia; Klaus Thurau, President-Elect of ISN and Treasurer of the International Council of Scientific Unions (ICSU), Chair of Physiology, University of Munich, FRG; and Heinz Valtin, Chair of Physiology, Dart-

mouth Medical School, Hanover, NH. By and large, academic positions in Africa (certainly Eastern Africa) pay so poorly that virtually every teacher is also in private clinical practice. That is true also of many or most who teach the basic sciences; therein lies the explanation that the 20–30 "physiologists" at the workshop participated actively in the entire conference, including its clinical aspects.

The meeting was held at the Kenya Medical Research Institute (KEMRI), a modern, large, beautiful, well-equipped research and conference facility in Nairobi. The meeting was conducted in the true spirit of a workshop, with a lively and constructive exchange of information from which all benefited greatly. The introductory exhortation by Dr. Abdullah for the Eastern Africans to "not only learn from our colleagues from outside but [also] impart our own experience to them" was echoed by H. Valtin in his introductory lecture, "Some of us from the West know relatively little about many of the major diseases that afflict the majority of the world's population. We have come here not only to take but also to listen and to learn."

All topics were discussed from the point of view of physiology, pathophysiology, and clinical aspects. They included water and electrolyte derangements in the various infectious diarrheas, malnutrition, and sickle cell disease; edema of various causes, especially kwashiorkor and protein energy malnutrition (PEM); acute renal

Report of a workshop on *Renal Diseases and Electrolyte Disorders in the Third World* held in Nairobi, Kenya, June 2–6, 1986.

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EDITORIAL

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informed of the issues raised by legislative initiatives, especially as to the effects of such initiatives in the home district.

Although the staffs of organizations such as the American Physiological Society are effective in presenting national concerns to the Congress regarding scientific issues, the factor determining how an elected official votes on these issues is decided most often by what he or she has heard from the voters back home. The evidence shows that we live in a truly participatory democracy.

This is a significant year in our nation's history. It marks the 200th anniversary of the Constitution and the convening of the 100th Congress. By coincidence, 1987 is the Society's Centennial Year. It also should be the year that physiologists in particular and researchers and educators in general get to know their Congressional delegations.

Therefore, I am encouraging every member of the American Physiological Society to begin building a communications channel with his or her Congressional delegation. I also urge the members who will be attending the APS Centennial Meeting in Washington, DC, to write for appointments with their senators and representative sometime during that week for the purpose of discussing legislative needs and concerns that affect you and your institution.

The APS staff will be happy to work with you to assure a successful meeting. Bill Samuels or Marty Frank can provide you with background and viewpoints of your elected officials and information on the issues you wish to discuss.

In making your appointments, bear in



Timothy J. Penney, Congressman from my district in Minnesota.

mind that elected officials have full schedules that allow for only brief visits. Try to make your schedule accommodate that of the senator or representative. While it is important that you arrive promptly for your meeting, it must also be remembered that elected officials frequently have hastily called meetings or are summoned to the floor to vote on pending legislation. Remember, patience is its own reward.

Please write to your senators and to each representative from your state asking for their cosponsorship of the Joint Resolution designating March 29-April 3 as "American Physiologists Week" (HJR 84 in the House; SJR 28 in the Senate). As you undoubtedly are aware, our efforts to secure such a resolution in the 99th Congress were only partly successful. The Senate unanimously approved the resolution, but it failed to receive the 218 cosponsors required for passage by the House.

During this APS Centennial year I urge every biomedical scientist to join in our participatory democracy by writing to and meeting with their elected officials. Your participation can help assure continued Congressional support for both the National Institutes of Health and the National Science Foundation, provide insights as to the importance of animals in research, and encourage support of the Joint Resolution designating March 29-April 3 as "American Physiologists Week."

The interaction of physiologists with the members of Congress can be viewed truly as "A Capitol Idea."

Franklyn G. Knox
President



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Deadline for submission of material for publication: Dec. 5, February issue; Feb. 5, April issue; April 5, June issue; June 5, August issue; Aug. 5, October issue; Oct. 5, December issue. If you change your address or telephone number, please notify the central office as soon as possible.

Dr. Knox Goes to Washington



Top left: Robert Dole, Kansas Senator; and Martin Frank. *Top right:* Doug Walgren, Pennsylvania Representative. *Middle left:* David Durenberger, Minnesota Senator. *Center:* James Wyngaarden, Director of NIH. *Middle right:* George E. Brown, Jr., California Representative. *Bottom left:* Rudy Boschwitz, Minnesota Senator. *Bottom right:* Martin Frank; Donald Newman, Undersecretary of the Department of Health and Human Services; and William M. Samuels.

failure (ARF), especially during pregnancy, which accounts for approximately 50% of ARF in Eastern Africa; the immune nephritides, due to various causes, especially schistosomiasis; hypertension; obstructive uropathy; drugs and the kidney; and renal function during pregnancy, especially the toxemias of pregnancy.

A major point that emerged repeatedly as the workshop proceeded is the wealth of largely untapped epidemiological information that exists in the Third World. This point applies not only to endemic diseases (e.g., malaria, schistosomiasis, malnutrition) but also to some that are prevalent in developed nations. It is said, for example, that renal stones are very rare in Africa and that hypertension was virtually nonexistent on this continent as recently as 1940, whereas now this disease is on the increase. The international faculty were startled to see slides showing a mean systolic blood pressure of 100 mmHg in African adults. If the observations are correct, there exists a marvelous opportunity to study the natural history of two disorders that account for much morbidity and mortality in the developed part of the world. Furthermore, such largely untapped resources suggest one important form of research that might be conducted in Africa at relatively low cost, as well as the importance of publishing the information in widely read and prestigious journals.

On the final day of the workshop, a session devoted entirely to physiology (described in greater detail below) was held concurrently with the more clinically oriented meeting.

From the very first day, the African participants indicated that the workshop was a landmark in that Eastern African scientists who shared an interest in the kidney had never before met to discuss problems that they face in common. Appreciation was also expressed that this was "one of those rare occasions when the international community has decided to team up with the less privileged continent of Africa in a joint educational programme." So great was the enthusiasm that on the final day of the conference, the participants founded the Eastern Africa Kidney Association (EAKA). This body will encompass all disciplines, from the basic sciences to the clinical, and it will concern itself with matters of education, research, and patient care. It is planned that EAKA will sponsor at least one meeting per year, similar to the one in Nairobi. The workshop thus served as a catalyst so that its impact will reach far beyond the single week when it was held.

Among other outcomes, the IUPS now has a major and highly competent anchor in Africa with whom further efforts in the Third World can be continued.

Physiology

On Friday, June 6, I met with approximately 30 physiologists who had participated in the earlier sessions. The purpose of this meeting was for me to be apprised of some of the problems involved in the teaching of physiology in the Third World, and in turn to inform the participants about how physiology is taught in the West. This meeting was held on the main campus of the University of Nairobi at Chiromo.

It was immediately apparent that the main problem for the physiologists (as, in fact, for all basic and clinical scientist in Eastern Africa) is the lack of ready access to current journals and textbooks. The participants were therefore very glad to hear about *News in Physiological Sciences*, which was started in part to meet this need in the Third World. None of them had heard about *NIPS*, which clearly illustrates that we need to establish channels through which physiologists everywhere can be informed of major developments in our discipline.

A second need, not surprisingly, is for research funds. It will be some time before such funds become available because one can hardly expect that a continent where starvation is on the increase will support basic research to any great extent. It may well be possible, however, that African physiologists could accomplish some good research in collaboration with colleagues in the West, wherein the Africans draw on their wealth of clinical material (malaria, schistosomiasis, malnutrition, and so forth) and the Western associate(s) contributes analyses using sophisticated equipment.

Another, limited possibility might be grants to particularly gifted and promising scientists or projects. One example became apparent on the first day of the workshop when Dr. Jehu Iputo from the Department of Physiology, Makerere University, Kampala, Uganda substituted for another speaker and presented his studies on disturbances of thermoregulation in malnutrition. He performed the work during a six-month leave at Cambridge, England. As he described so graphically, in Cambridge he had the equipment but lacked the malnourished patients, whereas in Kampala it was the reverse. Nevertheless, he tackled the problem with imagination in Cambridge by studying patients with Crohn's disease, with and without malabsorption. This young and enthusiastic scientist greatly impressed many people, including

myself, so that I invited him to give me a brief, written resume and an estimate of how much money he might need to complete the study in Uganda. The very next day, he handed me a four-page, typewritten account; the sum required would be approximately \$27,000, almost certainly a very worthwhile investment.

A third problem for African physiologists (and physicians) is that they have difficulty getting their manuscripts accepted by good, widely read Western journals. Often, the reason is that the methods and the written presentation are not sufficiently sophisticated. Much of the work that was presented at the workshop impressed me very favorably, and there is no doubt that our African colleagues have much to offer in the way of epidemiological studies. It is likely that many editors of Western journals are unaware of this research. A start on alleviating the situation might be made by having carefully selected regional representation on editorial boards, so that manuscripts might be judged, at least in part, by persons conversant with the Third World.

A final problem listed by the physiologists was the need for travel grants and stipends to permit young African scientists to work in laboratories outside of Africa. The ISN has established such grants for clinical training. I think it would be good if IUPS began a similar program for training in physiological research and teaching.

During the remainder of the session in physiology, I described how the subject is taught (I distributed the course schedule from Dartmouth Medical School), and in particular how we teach renal physiology. For the latter, I showed a videotape with which we open our course at Dartmouth (I left the copy in Nairobi), and I reviewed in detail two experiments in physiology (analysis of a 24-hour urine sample and variation in the secretion of vasopressin), which illustrate water and solute homeostasis. These are simple experiments, performed on medical students, which can be easily performed in African medical schools.

This special session on physiology was very well received by the Africans and instructive for the visitors from outside Africa. It might serve as a prototype for further activity of IUPS in the Third World.

Recommendations

As a result of discussions with the African participants and organizers, as well as with the faculty from outside of Africa, we would make the following points about future meetings and activities in the Third World, and specifically in Africa.

(Continued on p. 7)

APS NEWS

Centennial Update

With the receipt of 2,367 abstracts and their programming into slide and poster sessions, the fabric of the Centennial Meeting has been completed. As Al Fishman indicated in his Centennial Updates in the APS journals, "The Centennial Celebration . . . should be regarded as a woven fabric in which concept and technology constitute the warp and the weft. In this light, physiology is the loom, and the past and the present can be used to predict an almost endless variety of effects depending on the biological material under investigation, the conceptual framework within which it is processed, and the technological instruments that can be brought to bear on the raw ingredients from which the threads are fashioned."

The various components of the tapestry have now been woven together, enabling the Centennial Meeting to "disclose the full fabric of physiology and point the way toward the future." The meeting begins on Sunday, March 29, 1987, at the Washington Hilton Hotel with an opening welcome and lecture followed by a reception. From 11:30 A.M. to 1:15 P.M. on each day, there will be two plenary lecturers speaking to the "Century of Progress." Additionally, the 25 Centennial guests from abroad will be active participants in the sessions and symposia organized for the meeting. The 35 symposia scheduled for the meeting cover a wide variety of topics ranging from organs to molecules and from cells to integrative physiology.

On Tuesday, March 31, NIH and APS are co-sponsoring a session featuring an extraordinary group of scientists to discuss the Centennial of the organization and the future for biomedical research.

On Thursday, April 2, at the National Academy of Sciences, Sir Andrew Huxley, Cambridge University, will deliver the closing address on "Progress and Its Reverse in Muscle Research," to be followed by a reception. Because it may not be possible to accommodate all members of the APS at the closing presentation and reception at the NAS, we urge you to register early for the event.

Listed below are the elements that should make this a truly outstanding and memorable meeting.

Sunday, March 29

4:30 Opening Welcome, Lecture, and Reception; Washington Hilton Hotel

Monday, March 30

Plenary Lecturers: David Baltimore and Floyd E. Bloom

A.M. Symposia

Sleep-Dependent Changes in Homeostasis: A Systems View (Session 1)

The Basis of Micromechanical Behavior of the Lung

The Five Founders of APS

Skeletal Muscle Physiology: An Update and New Directions

Regulation of Renal Transport Systems

P.M. Symposia

Vasopressin and Fluid Balance

Approaches to the Teaching of Problem-Solving in Physiology

Role of Oxygen-Free Radicals in Myocardial Ischemia and Infarction

Models of the Renal Proximal Tubule (BMES)

Panel Discussion: The New Golden Age of Physiology: Perspectives on the Future of Physiology (ACDP/APS)

Tuesday, March 31

Plenary Lecturers: Hector F. DeLuca and Roger Guillemin

A.M. Symposia

Sleep-Dependent Changes in Homeostasis: A Systems View (Session 2)

New Roles for Oxytocin

Frontiers of Technology for Physiologists

Lung Growth and Development

Central Mechanisms Controlling Body

Fluid Balance

P.M. Symposia

Molecular Biology in Physiology (Session 1)

From Conduction of the Nerve Impulse to Ionic Channels Via Sodium Conductance

Autonomic Control of the Peripheral Circulation in Humans

Role of the Stomach in Regulation of Satiety

Panel Discussion: The Second Century of Experimental Biology (NIH/APS)

Wednesday, April 1

Cannon Lecturer: Karl J. Ullrich

Plenary Lecturer: Philip Leder

APS Business Meeting

A.M. Symposia

Steroid Hormone Receptors and Their Mechanism (SEBM)

Dynamic Behavior of Neurons and Neural Networks (SMB)

Microcirculation in Acute Ischemia and the No-Reflow Phenomenon (BMES)

P.M. Symposia

Molecular Biology in Physiology (Session 2)

Cardiovascular Responses to Chronic Portal Hypertension

Endogenous Antipyretics

Oxygen Transport: Environmental and Comparative Aspects

Thursday, April 2

Plenary Lecturers: Solomon H. Snyder and Sir John Vane

A.M. Symposia

Body Fluid and Electrolyte Distribution During Thermal and Exercise Stress

Control Strategies in Physiological Systems

Control of Pulmonary Circulation

Smooth Muscle: From Membranes to Crossbridges (Session 1)

Space Physiology (Session 1) (NASA)

Frontiers of Neuroscience

Cellular Transport of Free Fatty Acids (BMES)

Neuromechanisms of Baro- and Chemoreceptor Reflexes

P.M. Symposia

Smooth Muscle: From Membranes to Crossbridges (Session 2)

Cardiopulmonary-Neuroendocrine Interactions

Space Physiology (Session 2) (NASA)

The Capillary Function: Historical Perspectives and Future Directions

Cellular Mechanisms of Mesangial Cell Contraction

Macromolecular Uptake and Transport in Epithelia

6:00 P.M.

Closing Lecturer: Sir Andrew Huxley
Reception at the National Academy of Sciences

Reception at The National Academy of Sciences

Thursday, April 2, 1987

I would like to attend the closing lecture and reception at the NAS on Thursday, April 2.

Please print: Name _____

Address _____

City _____ State _____ Zip _____

Return to APS Membership Services, 9650 Rockville Pike, Bethesda, MD 20814.

ACDP/APS Panel on the Future of Physiology

A special session organized by the Association of Chairmen of Departments of Physiology and APS has been scheduled for Monday, March 30, 1987, at 4:45 P.M. in the Washington Hilton Hotel. The panel discussion, entitled "The New Golden Age of Physiology: Perspectives on the Future of Physiology," is designed to air diverse views and to try to get some consensus on the direction in which the discipline of physiology is headed as we approach the

twenty-first century. What can we expect departments of physiology to contribute in terms of research and education (of graduate students and medical students)? How can we reconcile a future in cellular and molecular research with the need to retain a strong toehold in the organ systems approach? Are we in danger of losing our identity (as the discipline of physiology) because more and more NIH funding is

supporting cellular and molecular approaches? These are some of the major issues that will be discussed by the members of the panel: Mordecai Blaustein, Floyd Bloom, Isidore Edelman, Claude Lenfant, Howard Morgan, Walter Randall, Stanley Schultz, and Steven White. The participation of the APS membership in what surely will be a lively and emotional discussion is strongly encouraged.

Second Century Founders

Thomas H. Adair
W. Ross Adey
Edward F. Adolph
Willard M. Allen
Paul D. Altland
Murray D. Altose
Rajen S. Anand
N. R. Anthonisen
Henry S. Badeer
Silvio Baez
Praphulla K. Bajpai
Carleton H. Baker
Bruno Balke
A. Clifford Barger
Bayer AG/Miles
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Judith S. Bond
Robert F. Bond
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John H. Boucher
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Shyan-Yih Chou
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Hazel Coleridge
John Coleridge
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Matthew N. Levy
Ira J. Lichten
Melvyn Lieberman
Meyer D. Lifschitz

APS Plenary Session

Physiology in Perspective

Walter B. Cannon Memorial Lecture

Wednesday, April 1, 1987

9:00 A.M. Analysis of the Transport Processes in the Proximal Renal Tubule: Contraluminal Secretory Mechanisms

Karl Ullrich, Professor

Max-Planck-Institut für Biophysik

Frankfurt, West Germany

10:00 A.M. APS Business Meeting

Franklyn G. Knox, President

American Physiological Society

W. Gregory Lotz	Eliot A. Phillipson	F. O. Schmitt	Daniel C. Tosteson
Ulrich C. Luft	Richard N. Pierson, Jr.	William W. Scott	Janett Trubatsch
Roy H. Maffly	Irwin J. Pincus	Gordon W. Searle	Karl J. Ullrich
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J. C. Penhos	James A. Schafer	Klaus Thureau	Benjamin W. Zweifach
Kenneth E. Penrod	Harold P. Schedl	Robert E. Thurber	

TEACHING PHYSIOLOGY
(Continued from p. 4)

1. Devote major efforts toward distributing published material to Third World countries. As a result of the Kenya workshop, the ISN and the Renal Commission of IUPS will explore the possibility of establishing a Medline computer network for Eastern and Northern Africa, and possibly for all of Africa.

2. As an alternative to a workshop on the model for Kenya, send one or two physiologists from a developed country(ies) to a central location in the Third World for a meeting with physiologists from developing nations on the same continent. Such a meeting, which might last approximately one week, should center on problems of physiology in the Third World, the teaching of a single subdivision of physiology (e.g., respiratory, endocrine, neuro, etc.), and review of the latest developments in that particular subdivision. A meeting of this type would have several advantages over a more extensive conference: it would be less expensive, be much easier to organize because less people would be involved, meet a major need in the Third World, and could be easily arranged because it would require only a couple of weeks' commitment from the international visitor(s).

3. As soon as the venue for a conference

and the local organizer have been identified, have a representative of the sponsoring international organization make a brief visit to the country in question to establish personal contact. The resulting familiarity with the "scene" and "personae" will help immeasurably in coordinating the subsequent planning.

4. Urge the local organizers to establish a program of topics and specific speakers as quickly as possible. Such a roster is usually required to solicit support from major organizations, such as ICSU, UNESCO, the International Bioscience Network (IBN), and others. The importance of starting early with vigorous efforts to raise funds cannot be overemphasized.

5. In setting a program, allow ample time for discussions, e.g., 15 minutes per 30-minute presentation.

6. Include a poster session, so that all who wish may present their work. Some countries will not allow or support attendance unless the person gives a presentation.

7. Assign the majority of presentations to speakers from developing countries; however, participation by several international faculty is also important.

8. Emphasize the quality and techniques of presentations. If possible, have the local organizers offer help with design and production of good slides.

9. Solicit syllabi from major speakers, to be distributed at the conference.

10. Use the conference as a forum to publicize the various activities of IUPS and other international organizations with special interests in the Third World.

11. Plan on some form of published summary of the conference. Such material will be helpful for review by the participants, and it may aid the local organizers and organizations in their relations with their governments.

12. When appropriate, utilize the conference as an impetus to found local organizations that will promote further interactions among themselves and with IUPS and other international organizations.

13. Try to solicit co-sponsorship from other international bodies in order to pool supporting funds and solicit advice and ideas. In the base of the Kenya Workshop, the coordination with Prof. Schrier and the ISN was invaluable.

14. Earmark a large share of appropriated funds specifically for support of travel grants to as many participants from Third World nations as is possible.

15. Require a formal report, including detailed financial accounting, from the local organizers at the completion of the meeting. For the Kenya Workshop, such a report is being prepared by Dr. Abdullah.

American Physiological Society

136th Business Meeting

Time: 4:15 P.M., Wednesday, October 8, 1986

Place: Clarion Hotel, New Orleans, LA

I. Call to Order

President Franklyn G. Knox called the meeting to order and welcomed the members to the 136th Business Meeting of the Society.

The agenda and ballot for the Election of New Members were distributed to the members along with the Proposed Amendment to the Bylaws to Extend APS Membership to Physiologists in All the Americas, and an Operational Guide Proposal for Restructuring APS Governance.

II. Report on Membership

A report on the current status of the membership and deaths since the last meeting were reported by the President-Elect, Harvey V. Sparks, Jr.

A. Summary of Membership Status

The APS membership reached 6,400, of which 4,632 are Regular, 16 Honorary, 159 Corresponding, 773 Associate, 634 Emeritus, and 186 Student members (see p. 10). This is an increase of approximately 100 members since the Spring meeting, thanks to the efforts of the Executive Secretary, Martin Frank.

B. Deaths Reported Since the Spring Meeting

The names of those members whose deaths have been reported since the previous meeting were read by Dr. Sparks, who asked the membership to observe a moment of silence in tribute to them (see p. 14).

III. Membership

A. Appointment of Tellers

President Knox instructed the membership to strike those names from the ballot for whom they did not wish to vote. Tellers M. Anderson, N. Granger, X. J. Musacchia, and P. Kober were asked to collect the ballots for the Election of New Members.

B. Election of New Members

Dr. Sparks announced that all candidates were elected to membership in the Society (see p. 10).

IV. Amendment to the Bylaws

In compliance with the Bylaws, the proposed Bylaws amendment to extend membership in the Society to physiologists in



Harvey V. Sparks, Jr., and Franklyn G. Knox.

all the Americas was published in the June 1986 issue of *The Physiologist*. This proposal was contingent upon the agreement of the Latin American physiologists, who were very enthusiastic and encouraging about amending the Bylaws.

A motion was seconded and passed unanimously that Article III, Section 2. Regular Members, Section 3. Corresponding Members, Section 5. Associate Members, Section 7. Student Members, be amended by removing "North America" inserting "the Americas."

V. State of the Society

Restructuring Society Governance

Dr. Knox announced that this meeting is the first step in revitalizing the Fall Meeting through a *thematic approach*. A total of 615 scientific papers were programmed, of which 20% were first authored by female scientists. Carl Gisolfi and the Program Advisory Committee welcome first suggestions of the membership for programming the Society meetings. This Committee was commended for its efforts in organizing an excellent meeting program.

The American Physiological Society's Founders Week Program, March 29–April 3, 1987, will be the keystone of celebrating the 100th birthday of the Society. The meeting in Washington, DC, with the Fed-



Martin Frank, Harvey V. Sparks, Jr., and Franklyn G. Knox.

eration of American Societies for Experimental Biology, will be outstanding due to the efforts of many members of the Society and under the Chairmanship of Alfred P. Fishman and Orr E. Reynolds; the Centennial Committee; and the APS staff, Martin Frank, William Samuels, and Toby Appel. Everyone is looking forward to an outstanding program.

An opening ceremony will feature invited guests representing the origin of APS. This will be followed by a full and exciting program throughout the week leading up to a closing reception at the National Academy of Sciences. There will be special publications and memorabilia that are on display at this meeting. This will be a "must" meeting for ALL physiologists and a time to showcase your work.

The week of our Spring Meeting will be designated "American Physiologists Week" if a resolution sponsored by Representative Douglas Walgren and Senator Robert Dole receive sufficient cosponsors.

Dr. Knox solicited the help of the membership indicating that 218 votes are needed in the House and 25 in the Senate. Our cup is half full, and time is running out. Members are urged to contact their congressmen concerning endorsement of HJ 677 and their senators about SJ 408 proclaiming the Week of March 29–April 3, 1987 "American Physiologists Week."

The publications of the Society continue to thrive under the leadership of Paul C. Johnson, Chairman of the Publications Committee, and Stephen Geiger of the APS staff, who was acknowledged for the major role he has had in the success of the journals. Record scientific strength and outstanding performance resulted from sectionalization of the *American Journal of Physiology* and the efforts of the authors and editors. A new publication, *News in Physiological Sciences (NIPS)*, has been very enthusiastically received.

At this point in the Society's history, an attempt is being made to strengthen the sections' voice in the Society. Council looks to strong sections with a greater voice in the governance to move the Society forward in its next century of progress. All members received a letter from the President concerning Society governance, which was distributed with the agenda as well. The proposal was initiated by the Long-Range Planning Committee with input from the membership, sections, and the Section Advisory Committee. In brief, it recommends providing greater input from sections, an expanded Council, a Nominating Committee, and a simplified voting procedure. It was emphasized that Council encourages the development in special interest groups. Dr. Knox asked for

discussion of the proposal in preparation for a retreat of Council following this meeting. There has been strong support from those members who were unable to attend the Business Meeting.

Responding to a member, who asked if there would be only six sections, Dr. Knox said that the number of sections will not change initially, but some may decide to merge. The number will also depend on the criteria of 100 regular members adhering to a section. Members will be asked to check their section preference on the dues notice. A section not meeting the requirement will not automatically be terminated but it will be given an opportunity to recruit members.

Another member asked why the Section Advisory Committee chairperson was to be an ex officio rather than a voting member of Council. This is an appointed and not an elected office as are the chairpersons of the Finance, Program, Publications, and Education Committees, who are ex officio members without vote. The Society officers and Councilors are elected by the membership.

Regarding the election of Officers and Councilors, it was pointed out that the present procedure of the membership nominating candidates for the President-Elect and Councilor(s) will be continued. A list of all nominees advanced by the members for each office will be made available to a nominating committee. The committee, to be composed of members of the Section Advisory Committee, will be restricted to selecting a slate of candidates from the membership's list of nominees.

Future Meetings

1987

* FASEB Annual Meeting
APS Fall Meeting

March 29-April 3, Washington, DC
October 11-16, San Diego

1988

FASEB Annual Meeting
Joint APS/ASPET Fall Meeting

May 1-6, Las Vegas
October 9-14, Montreal

1989

FASEB Annual Meeting
APS Fall Meeting

March 19-24, New Orleans, LA
October 15-19, Rochester, MN

* APS Centennial Celebration

Dr. Knox announced that the proposed amendments to the Bylaws will be brought to the membership for vote at the Society's Centennial Celebration Meeting.

VI. New Business

"No Shows"

Having had three no shows in his session, Dr. Charles Tipton of Arizona expressed extreme agitation with the number of "no shows" at a Fall meeting. Following the Fall meeting in Hawaii, he also expressed grave concern about this problem and asked the Society to take some type of action. However, no definitive action has been taken.

Therefore, he moved that the problem of no shows for free communications, both oral and poster, be referred to the Program Committee, and that a recommendation for definitive action be made to Council. The motion was seconded and passed.

One suggestion was not to allow the no

shows to present a paper at the following meeting, and another recommendation was to publish the name of the individual with his/her institution in *The Physiologist*.

With no other business, the meeting was adjourned at 5:00 P.M., October 8, 1986, New Orleans, LA.

Harvey V. Sparks, Jr.
President-Elect

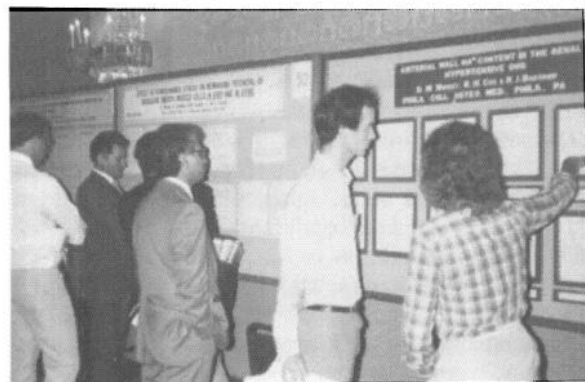
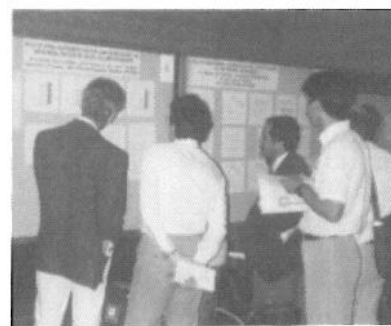
1986 Fall Meeting Statistics

The following figures are from the APS Fall "Thematic" Meeting, October 5-9, 1986, in New Orleans, LA.

Scientific Registration

Members	371*
Nonmembers	229
Students	145
Retired Members	2
Others	74
Total	821

* Membership breakdown: APS 355; Society for Experimental Biology and Medicine, 16.



Poster sessions at 1986 APS Fall Meeting, New Orleans, LA.

Membership Status

Regular	4,632
Emeritus	634
Honorary	16
Corresponding	159
Associate	773
Student	186
Total	6,400

Newly Elected Members

The following, nominated by Council, were elected to membership in the Society at the Fall Meeting, 1986.

Regular Members

Janice M. Bahr
John T. Barron
Francois Bellemare
Walter G. Bottje
Donald G. Buerk
Michael J. Buono
Avinash Chander
C. I. Cheeseman
Victor Chen
Yiu-Fai Chen
Curtis E. Chubb
Philip S. Clifford
John H. Collins
David J. Combs
Melvin Wayne Cooper
Ronald H. Cox
Daniel J. Crittenden
James C. Delehunt
Casey M. Donovan
Janice G. Douglas
Donald D. Doyle
Calvin Eng
Sharon A. Esau
Robert J. Etches
James E. Foley
Robert J. Full
Barbara E. Goodman
Mark W. Gorman
Gary J. Grover

Dan R. Halm
Glenn I. Hatton
Jane L. Hoover-Plow
Patricia B. Hoyer
Reed W. Hoyt
Frank E. Johnson
Freja Kamel
Kristine E. Kamm
Gordon L. Kauffman
Ingegerd M. Keith
Michael C-K. Khoo
William R. Kimball
Cheryl E. King
Michael I. Kotlikoff
Yasha J. Kresh
Fredri Kronenberg
David D. Ku
George D. Leikauf
Daniel E. Lemons
Bruce Lobaugh
William McM. Long
Dennis N. Marple
Michael A. Matthay
Angele V. McGrady
Wayland N. McKenzie
Michael M. Merzenich
Lee D. Mitchell
Vahid Mohsenin
James L. O'Conner
Gibbe H. Parsons

David W. Ploth
Aleksander S. Popel
James P. Porter
Keith R. Porter
Robert F. Rakowski
Steven M. Reppert
Jeremy D. Road
Audrey J. Robinson-White
Charles E. Rose, Jr.
William Rouslin
Paul T. Schumacker
Victor L. Schuster
Karen R. Segal
Julian L. Seifter
Lois M. Sheldahl
Arthur William Siebens
Pomila Singh
David J. Skorton
William G. Squires
Bruce A. Stanton
Arlene A. Stecenko
Gordon L. Telford
Mark Toraason
James G. Townsel
Patrick P. W. Tso
Antonios H. Tzamaloukas
Richard C. Vari
Dorothy E. Vatner
Steven R. Vigna
Stephen M. Vogel
James G. Walmsley
David B. West
David M. Wheeler
Kyra R. Whitmer
Mark L. Zeidel
David W. Zeigler

Corresponding Members

Jesper Brahm
Daniel H. Casellas
Orlando J. Castejon
Ching-Ping Chih
Leonardo M. Fabbri
Yukisato Ishida
Miyuki Kuno
Giuseppe A. Miserocchi
Daniela Negrini
Basim S. Toma

Franz Von Bruchhausen
Walter A. Zin

Associate Members

Stephen L. Archer
Daniel N. Darlington
Claude Deschamps
Thomas J. Eddinger
Debra L. Forman
David D. Gutterman
George Hajduczuk
Bruce M. Halpryn
Richard L. Hebert
Gary L. Klinger
Sally A. Lang
Mable H. Ornodorff
Judith T. Parmelee
Gordon K. Prisk
Mark Riedy
Jeffrey Y. Schnader
Francis Schwiap
Laurence J. Segil
Jacques Van Dam

Student Members

Donald E. Bebout
Marilyn A. Brandt
Jamie D. Campbell
Eun J. Cha
Edna Chow
Donald W. Davis
Karen A. Foster
Edward E. George
Marie H. Gleason
Christopher D. Hardin
Erik J. Henriksen
Richard W. Hicks
Barbara A. Hutchings
Randi B. Silver
J. Kevin Smith
Samuel M. Smith
Mark G. Stewart
Roger L. Stork
John D. Strauss
Wen Tan
Shirley Whitescarver
William A. Womack

News from Senior Physiologists

Letters to Roy Greep:

James O. Davis writes that since his retirement from his position as Chairman of the Department of Physiology at the University of Missouri School of Medicine in 1982 he has been serving as a consultant to Dr. Ronald Freeman and his group, who have taken over his former research program on heart failure and hypertension. He and his wife travel considerably in the States and abroad. They attend each year the annual meeting of the National Academy of Sciences and visit old friends in the

Bethesda-Baltimore area. His chief hobby is trout fishing the Ozarks in southern Missouri.

Jane Sands Johnson thanks the Committee for its greeting on her 93rd birthday. After an operation for a fractured hip last August, she learned that by the "rules" she would have to leave the Home at Coopers-town. She recently moved to a new place twenty minutes away where the room is small but clean, the food good, and no rules and tension. She reports that she gets around well with a walker and can balance a pen, though the muscles are atrophied. "Thanks be—I can still read and that along with exercises keeps me busy and happy." On Thanksgiving, her step-daughter and

family visited, and she expected a visit from her son and his wife, now living in Saudi Arabia, in December.

Letter to Arthur B. Otis:

Alfred H. Lawton, who resides at the Advent Christian Village in Dowling Park, Florida, writes: "I still teach our nursing care staff and our community care personnel about aging, physiology, and some medical conditions. They get Continuing Education credit for this. Also I do the Utilization and Review for our Nursing Home [and] use my photographic hobby to keep the Village in slides for presentations and to help keep our closed circuit TV station regularly on the air."

Congressional Agenda Appears Set for Animal Welfare Legislation

Early soundings from the 100th Congress indicate that the primary agenda items of animal rights advocates are the enactment of a law that would give individuals judicial standing so that they could sue the federal government for alleged violations of the Animal Welfare Act and a law that would prohibit the use of unclaimed pound animals for research supported by federal funds.

The Congress also is expected to give serious consideration to a bill that would encourage federal agencies to promote nonanimal alternatives to the LD50 test, a bill that has been promoted in the last two Congresses by Rep. Barbara Boxer (D-CA) and has received virtually no opposition from the scientific community.

Two other legislative initiatives expected to receive consideration during the 100th Congress are the proposed Information Dissemination and Research Accountability Act and a Congressional Joint Resolution urging the National Institutes of Health (NIH) to release to a primate sanctuary in Texas the 14 Silver Spring monkeys now housed at the Delta Regional Primate Center in Louisiana.

All five of these legislative items died in committee when the 99th Congress adjourned last October and will have to be reintroduced. A capsule view of these legislative initiatives follows.

Animal Welfare Act Amendment—As a result of the failure by animal rights activists to gain standing in federal court, an effort is expected to be made to win judicial recognition through legislative means. Rep. Charlie Rose (D-NC) is expected to propose an amendment to the Animal Welfare Act that would permit individuals to file civil suits against agencies of the federal government for alleged failures in enforcing provisions of the Animal Welfare Act. Under current law only the US Department of Agriculture can enforce compliance.

Animal rights activists and organizations have been denied standing by both a federal district court and a federal court of appeals. Standing is the recognition by a court that a plaintiff has a legal stake in a civil suit. Three animal rights organizations and seven activists have been attempting to sue for custody of the 14 monkeys confiscated in 1981 by police in a raid on a Silver Spring, MD, research facility. The

monkeys are the property of the Institute for Behavioral Resources but have been maintained since the police raid by NIH.

The move toward a legislative confirmation of standing is believed to be sought by the animal rights activists as an effort to establish new grounds for possible reconsideration by the lower courts inasmuch as the time has elapsed for filing an appeal of the lower courts decisions to the US Supreme Court.

Congressional Joint Resolution—In a related action, a renewed effort by the House and Senate is anticipated in the reintroduction of a joint resolution urging NIH to release the 14 monkeys to Primarily Primates, a Texas sanctuary operated by animal protectionists.

The resolution, cosponsored in the last Congress by 209 House members and 19 senators, conveys the sense of the Congress that the monkeys should be released because they are a burden to the taxpayers and should be permitted to live out their normal lives without further invasive research. The monkeys were part of a research program sponsored by NIH.

Pet Protection Act—In a move to reduce the use of unclaimed animals in research, legislation is being sought that would prohibit the spending of any federal funds for the purchase of such animals from pounds and animal shelters. The proposal was introduced in the second session of the last Congress by Rep. Robert J. Mrazek (D-NY) and was supported by 60 cosponsors.

In essence the bill is a companion to the efforts of The Humane Society of the United States (HSUS), which is seeking state and local prohibitions against the release of unclaimed pound animals for any purpose other than pet adoption. The HSUS has set a goal of total prohibition by the year 2000 with the objective of 40% attainment by 1990. A dozen states have enacted such laws.

Humane Products Testing—The Congress is expected to give serious consideration to this bill, which encourages the elimination of LD50 testing. The bill was first introduced in the 98th Congress but gained little support. It was reintroduced early in the 99th Congress but did not gain much support until the second session, when animal welfare groups started a major effort that resulted in 105 cosponsors in the House. There was no companion

bill introduced in the Senate.

The bill has not received any major opposition by the scientific community, and elimination of LD50 testing has the support of the Pharmaceutical Manufacturers Association. Thus passage of the bill in the 100th Congress is probable.

Information Dissemination and Research Accountability—This legislative initiative was introduced by Rep. Robert G. Torricelli (D-NJ) two Congresses ago but without much success because of its estimated cost: approximately \$4 billion to establish and \$200,000 million in annual operating costs. Torricelli has announced that he plans to reintroduce a modified version of the bill that will be less costly.

The original version would have established a National Center for Research Accountability at the National Library of Medicine that would be staffed by 20 biomedical research specialists appointed by the President. The Center would conduct full text literature searches of all animal research done or is in progress in this country and throughout the world.

The staff would review all animal research approved for funding by federal agencies, and if the project was determined to have been done or be in progress, the Center could veto the funding.

A sixth legislative proposal that may be carried over from the 99th Congress would be the enactment of federal penalties for break-ins, vandalism, and theft of animals, data, or equipment from laboratories conducting research with federal funds.

The proposal was recommended by APS in the 98th Congress and was introduced in the 99th Congress by Rep. George E. Brown, Jr. (D-CA). Although the bill received little support from House members, it was noted that break-ins of laboratories stopped after the bill was introduced and resumed immediately after the Congress adjourned. Its reintroduction hinges, by and large, on whether the research community wants to push for such penalties. The original bill called for fines up to \$250,000 and prison terms up to 20 years for persons convicted of putting an individual life in jeopardy, and fines of the same amount and five year prison terms for destruction and theft of property.

(Continued on p. 12)

Animals Taken in Break-in; Raid Brings Press Criticism

Animal rights vandals resumed break-ins of research laboratories within days of the adjournment of the 99th Congress. The first break-in was at the University of Oregon in Eugene. The second took place in early December at a commercial research facility in Rockville, MD.

In Oregon the Animal Liberation Front broke into two laboratories and an office and stole 100 rats, 24 rabbits, 18 cats, and 12 hamsters and caused more than \$50,000 in damages including the destruction of a \$10,000 microscope. The laboratories from which the animals were stolen were used for breeding and caring for research animals and not for research purposes.

In a statement to the Associated Press the Animal Liberation Front said, "This is just the beginning of our efforts to liberate those oppressed in research concentration camps in Oregon. We will not allow the slaughter to continue without resistance. You will hear from us again soon."

Of the animals stolen 10 of the rabbits were recovered. "They were dumped on a county road about 50 miles away, just huddled together next to the road," said Greg Stickrod, director of Laboratory Animal Services at the university. "Fortunately, some nearby residents found them and returned them to the university."

In noting that the rabbits had been bred for research purposes and not capable of outdoor survival, it was said that "animal

researchers have to use anesthesia when they perform a procedure on an animal. Hawks don't."

In Maryland a group identified as True Friends broke into SEMA, Inc., laboratory and stole four baby chimpanzees that were being used for AIDS and hepatitis research funded by NIH. Unlike other animal rights activities in the Washington, DC, area, this break-in received negative or no publicity from publications that previously supported such activities, including *The Washington Post*.

The Montgomery Journal, which in the past lauded actions of the People for the Ethical Treatment of Animals (PETA) and its underground components for incidents at the University of Pennsylvania, the National Naval Medical Research Center in Bethesda, MD, and the Uniformed Services University of the Health Sciences, spoke out against this break-in because it disrupted AIDS research.

Referring to the break-in and theft of the chimpanzees as "misguided fanaticism," the Rockville-based newspaper said:

"Animal rights groups such as True Friends and PETA have long claimed to inhabit a higher moral plane than those of us who do not share their zeal. But they have not shown it in this case."

"To those people who took the animals from the lab, and those who aided and abetted them, we offer this observation: If your moral courage forces you to break the law in order to remain true to your beliefs, you should have the moral courage to accept the consequences of your actions with out hiding behind some dummy corporation or underground splinter group label."

William M. Samuels

ANNOUNCEMENTS

James D. Hardy Memorial Lecture

The inaugural James D. Hardy Memorial Lecture, "The Parietal Lobe System and the World Around Us," will be delivered on Friday, March 27, 1987, at 4:00 P.M. by Vernon B. Mountcastle, Johns Hopkins University School of Medicine. The lecture will be given in the Mary Ellen Hope Medical Education Building, Yale University School of Medicine and is sponsored by the John B. Pierce Foundation Laboratory.

Revised Policy on Humane Care and Use of Laboratory Animals

The Public Health Service Policy on Humane Care and Use of Laboratory Animals (PHS Policy) has been amended to incorporate changes mandated by the Health Research Extension Act of 1985, Public Law 99-158. The most significant changes are members of the Institutional Animal Care and Use Committee (IACUC) must now be appointed by the Chief Executive Officer (CEO); animal welfare assurance must now contain an explanation of training or instruction available to all personnel involved in the use, care, and treatment of animals; IACUC evaluations must be conducted once every six months; and minority views of IACUC members must be included in the reports of the semi-annual reviews.

Institutions that have an approved or provisionally acceptable Animal Welfare Assurance on file with OPRR must submit by July 1, 1987, an amendment to their assurance that reflects the changes that the institution has made to conform to the amended PHS Policy.

Copies of the Public Health Service Policy on Humane Care and Use of Laboratory Animals Revised as of September 1986 may be obtained from Carol Young Wigglesworth, Office for Protection from Research Risks, National Institutes of Health, Building 31, Room 4B09, Bethesda, MD 20892. Phone: (301) 496-7163.

Symposium on Extension of Oxygen Tolerance

The Institute For Environmental Medicine will sponsor a one-day symposium on May 26, 1987, in honor of Dr. C. J. Lambertsen and to celebrate the 20th Anniversary of the Institute. The symposium will feature state-of-the-art presentations oriented toward extension of oxygen tolerance in animal and human models. For further information contact B. Hanley, Institute for Environmental Medicine, 14 Med. Labs Bldg., Univ. of Penna., Philadelphia, PA 19104-6068. Phone: (215) 898-9100.



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(Continued on p. 15)

OPINION

On Teaching Physiology to Medical Students: A Reply

Dr. Edith Rosenberg (*The Physiologist* 29: 45, 1986) has described what can only be called a crisis in the current teaching of medical physiology which has resulted from 1) replacing the full, "classic physiology" with a "core" curriculum, and 2) simultaneously abandoning "old-fashioned student laboratories" in which students "acquired a thorough understanding of the application of basic physical-chemical processes to the functioning of the intact awake human being."

As a solution to this crisis Dr. Rosenberg offers three prescriptions. 1) If only a "core" of physiology can be taught, include only integrative, organ system physiology. 2) In the place of the now absent laboratories, use discussions of "hypothetical experiments" in small group settings to foster the all important integration and application of knowledge. 3) Avoid the use of computers and computer models in teaching physiology.

I would like to comment on Dr. Rosenberg's basic premise as well as each of her three prescriptions.

Dr. Rosenberg's statement of the problems confronting the current teaching of physiology is basically correct, and if anything, too "kind." Students are being swamped with a flood of facts that they are expected to memorize and retrieve on command (during course exams and, of course, the National Board exams). At the same time, laboratories and small group discussions are decreasing in number. The result is a full "data bank" and little ability to use or apply that stored information in any useful way. That is to say, our students can't "put it all together" and they are poor problem-solvers because we are no longer asking them to develop those skills.

However, Dr. Rosenberg's proposals for curing this malaise are, I think, incorrect or at least short-sighted.

First, her rejection of cellular and sub-cellular mechanisms as an important part of "core" physiology, whatever her motivation for doing so, will do our students a distinct disservice. One need only reflect on the rapid development, and medical therapeutic applications, of our understanding of the roles played by intracellular calcium in the regulation of function in the cardiovascular system to see how short-sighted this approach is. Students *do* need to understand some aspects of physiology

at micro-levels of function.

This is not to say that integrative, organ system physiology, Dr. Rosenberg's "core", ought to be replaced by cell physiology. On the contrary, students need to understand the functions of the human body at both levels of organization if they are to eventually function effectively as physicians.

However, integrative or regulative physiology is not nearly as easy to teach as Dr. Rosenberg implies. The concepts of feedback, system dynamics, etc., are amongst the most difficult ideas for students to master, and success here requires the use of learning resources such as laboratories, and perhaps computers, that can give students direct experience with the complex functioning of such systems.

Thus, Dr. Rosenberg's rejection of the computer seems particularly wrong-headed in this connection. Whatever she means by the claim that "computer programs are hardwired", she is incorrect in claiming that "they cannot incorporate the complexity and variability of the living organism." The program "HUMAN" (Coleman and Randall, *The Physiologist* 26: 15-21, 1983) simulates more integrative, organ system physiology, in all its complexity, than we can reasonably expect students to master in their first exposure to human physiology. And there is now a large number of simulations of different systems at varying levels of organization that are being used in teaching physiology at many different levels (Michael and Rovick, *Medical Teacher* 8: 19-25, 1986). This is not to suggest that the computer is a substitute for *all* laboratories, or that it is the cure-all for what ails physiology teaching. It is, however, a tool that can provide our students with useful experiences that can assist them in integrating the facts they have memorized and can help them to develop their problem-solving ability.

Finally, I would point out that Dr. Rosenberg's proposed discussions of "hypothetical experiments", while probably of great value, are not new, and are merely one example of an approach to teaching called problem-based learning (Barrows and Tamblyn, *Problem-Based Learning: An Approach to Medical Education*, New York, Springer Publishing, 1980). A similar kind of discussion has been used in otherwise conventional physiology courses

(Michael and Rovick, *The Physiologist* 26: 225-228, 1983) and as the basis for entire medical curricula that are now in place, in one form or another, at nearly a dozen medical schools around the world.

Workable solutions to the general malaise affecting the teaching of medical physiology will not be easy to develop. Strong constraints on the time available for teaching an ever growing body of basic medical science and limitations on the resources available to support such teaching must affect the approaches that we take. Perhaps before attempting to define a core curriculum we ought to ask ourselves why we teach physiology to medical students, how we expect them to use the information we impart, and what role this will play in their ultimate functioning as physicians.

I would like to close with this observation. Physiology has created innumerable forums through which we can communicate the latest, and not so latest, research findings from the laboratory, to the point where it is virtually impossible to keep up with the literature in even a fairly narrow domain. However, there are few forums in which we can communicate developments, recent or not so recent, in the teaching of physiology. And more importantly, there seems to be little incentive for those of us seriously involved in teaching to even attempt to communicate with one another. Until that changes I am afraid that most of us will continue to "re-inventing the wheel" every few years in our classrooms.

Joel Michael
Rush Medical College
Chicago, Illinois

Edward F. Adolph (1895-1986)

Edward F. Adolph, one of the Society's most active members, died on December 15, 1986. Educated at Harvard, he was associated with the Department of Physiology at the University of Rochester School of Medicine and Dentistry since the department was first organized in 1925. He has gained much recognition for his work on physiological regulation and integration and on adaptation to hot and cold environments. Elected to APS in 1921, Adolph was a member of APS for 65 years. He served as President of APS in 1953-1954, was the founder and first Chairman of the Society's Education Committee, and was continuing to serve the Society as a member of the Senior Physiologists Committee.

BOOK REVIEW

Anabolic Action of Steroids and Remembrances

Charles D. Kochakian

School of Medicine, University of Alabama at Birmingham, 116 pp., \$10.95

While a graduate student Charles D. Kochakian had the good fortune (genius) of making a discovery that provided a breakthrough in endocrinology and the further good judgment to utilize this observation as the beginning of a lifetime career that changed our concepts of how hormones modulate biological processes. At least since the time of Aristotle it had been general knowledge that in many species muscle development is greater in males than in females and that this dimorphism can be prevented if males are castrated early in life. Kochakian showed that this promotion of tissue growth (anabolism) by male hormones can be monitored quantitatively by measuring nitrogen balance in the urine. This seminal observation was then exploited in an imaginative series of studies that established ultimately that the anabolic effect of androgens does not require the participation of other endocrine systems, that it is the result of an enhancement in protein synthesis of target tissues rather than a decreased rate of protein breakdown, that protein synthesis is enhanced as the result of primary effects of the hormone on nucleic acid metabolism, and that various individual effects of the hormone are mediated by the induction of specific enzymes in target tissues, the exact nature of which varies from cell to cell and from species to species. He pioneered the concept that the same hormone can have different effects in different tissues and recognized that one factor that influences these differential actions is the metabolism of testes-

terone to active and inactive metabolites in different sites. This body of work extends over almost the entire history of endocrinology from the days of poorly characterized urine extracts to modern molecular biology, and the development of androgen physiology is explained as a logical, evolving body of thought in a way that makes a significant contribution to the historical literature in the field.

The memoir is equally interesting as a reflection of its time and of ours. Many pioneers in endocrinology were trained as organic chemists; indeed, it is difficult to believe that the advances in the field could have been made in one lifetime by anyone other than a chemist, and the present emphasis on other types of training for biomedical research may be a detriment to its future course of development. The memoir also explains how ideas were exchanged in the early days of endocrinology and describes the seminal role played by a few dynamic personalities in the field such as Ernst Oppenheimer and Fuller Albright. As the Laurentian Hormone Conferences were to Dwight Ingle, the Macy Conferences were to Kochakian, providing intellectual stimulation, criticism, and emotional support. Such institutional and organizational forums that constitute the framework for science are even more important for the preservation and promotion of investigative function when economic resources become rate-limiting, as during the Depression of the 1930s. In our era, when the support for biomedical research appears to be waning, such organizations deserve our loyal support.

Furthermore, this memoir provides a brief glimpse into the dynamics of institutions, particularly in regard to development of centers of scientific excellence at many provincial universities during the educational expansion after the Second World War; that burgeoning was not (and is not) an easy accomplishment. Finally I would add that in these pages is described the best of all possible worlds—the happy communion of scholars in the pursuit of truth that transcends national boundaries and is the true essence of science.

In short, Dr. Kochakian's autobiography is a paradigm for scientists young and old.

Jean D. Wilson

Deaths Reported Since the 1986 Spring Meeting

Reginald L. Boyd, San Antonio, TX (8-11-86)
T. E. Boyd, Ashland City, TN (2-10-86)
Emmett B. Carmichael, Birmingham, AL (11-14-85)
Dante J. Chiarandini, New York, NY (Feb. 1986)
George Clark, Charleston, SC (3-21-86)
David Bruce Dill, Santa Barbara, CA (6-18-86)
Nicholas R. DiLuzio, New Orleans, LA (7-02-86)
Claude Fortier, Ste-Foy, Quebec (4-22-86)
Irwin J. Fox, Minneapolis, MN (6-15-86)
Edward W. Hawthorne, Washington, DC (10-7-86)
Wayland E. Hull, Seabrook, TX (8-19-84)
Jack N. Hunt, Houston, TX (4-14-86)
William J. Rashkind, Philadelphia, PA (6-06-86)
Lewis Schiffer, Lakewood, CO (Jul. 1985)
Ralph W. Stacy, Middleton, OH (3-06-86)
Henry E. Swann, Downey, CA (7-28-85)
Rudolf Thauer, Freiburg, FRG (3-20-86)
Clara Torda, Brookline, MA (4-17-86)
John W. Winkert, Bowie, MD (7-22-86)

BOOKS RECEIVED

Biotechnology. The Renewable Frontier. D. E. Koshland, Jr. (Editor). New York: American Association for the Advancement of Science, 1986, 400 pp., illus., index, \$29.95.

Computers in Medicine. M. Anbar (Editor). Rockville, MD: Computer Science Press, 1986, 336 pp., illus., index, \$29.95.

Developmental Neurobiology of the Autonomic Nervous System. P. M. Gootman (Editor). Clifton, NJ: Humana, 1986, 440 pp., illus., index, \$64.50.

A Difficult Balance. Editorial Peer Review in Medicine. S. Lock. Philadelphia, PA: ISI Press, 1986, 172 pp., illus., index, \$24.95.

Human Immunogenetics. Principles and Clinical Applications. J. E. Bernal. London: Taylor & Francis, 1986, 217 pp., illus., index, \$18.00.

Neuromethods 5. Neurotransmitter Enzymes. A. A. Boulton, G. B. Baker, and P. H. Yu (Editors). Clifton, NJ: Humana, 1986, 640 pp., illus., index, \$69.50.

Professor Dirk Durrer. 35 Years of Cardiology in Amsterdam. F. L. Meijler and H. B. Burchell (Editors). Amsterdam: North-Holland, 1986, 676 pp., illus., \$75.00.

Respiratory Physiology. Second Edition. A. H. Mines (Editor). New York: Raven, 1986, 175 pp., illus., index, \$19.50.

Chaos. A. V. Holden (Editor). Princeton, NJ: Princeton Univ. Press, 1986, 324 pp., illus., index, \$19.95.

Neural Function. M. Wang and A. Freeman (Authors). Boston, MA: Little, Brown, 1986, 210 pp., illus., index, \$18.50.

The Oculomotor and Skeletomotor System. Differences and Similarities. H.-J. Freund, U. Buttner, B. Cohen, and J. Noth (Editors). Amsterdam: Elsevier, 1986, 400 pp., illus., index, \$118.50.

An Introduction to Fetal Physiology. F. C. Battaglia and G. Meschia. Orlando: Academic, 1986, 257 pp., illus., index, \$45.00.

Cardiovascular Physiology, 5th Edition. R. M. Berne and M. N. Levy. St. Louis: Mosby, 1986, 261 pp., illus., index, \$19.95.

The Heart and Cardiovascular System: Scientific Foundations (A Two-Volume Set). H. A. Fozzard, E. Haber, R. B. Jennings, A. M. Katz, and H. E. Morgan (Editors). New York: Raven, 1986, 1,797 pp., illus., index, \$225.00.

Request for Historic Photographs

As part of the APS Centennial Celebration, the Centennial Task Force is planning to display a photo exhibit, "A Century of Physiologists," at the Washington Hilton Hotel, the APS headquarters for the Spring meeting, March 29-April 3, 1987. We would welcome any donations of photographs of physiologists, old or recent, especially of physiologists at work or at APS events, for the APS photo collection and for possible display in the Centennial exhibit. Please send contributions of photographs to Toby Appel, Historian/Archivist, APS.

PEOPLE AND PLACES

Paul M. Gross, Ph.D., and **Joseph D. Fenstermacher, Ph.D.,** received the Heinz Karger Prize 1986 for outstanding work. Drs. Gross and Fenstermacher, of the State University of New York at Stony Brook, were elected to APS membership in 1976 and 1982, respectively.

Louis Diamond, Ph.D., Director of the Pharmacology and Toxicology Division in the College of Pharmacy, University of Kentucky, has been appointed Dean of the School of Pharmacy at the University of Colorado. Dr. Diamond has been a member since 1970.

R. Paul Robertson, Ph.D., Professor of Medicine at the University of Colorado, has been named Director of the Diabetes Center at the University of Minnesota. Dr. Robertson has been an APS member since 1976.

The Council for International Exchange of Scholars has announced that **James E. Heath, Ph.D.,** Professor of Physiology, University of Illinois, Urbana, was awarded the Fulbright Scholarship to travel, lecture, consult, and conduct advanced research in Argentina during the 1986-87 year.

Victor Hutchison, Ph.D., has been named President-Elect of the American Society of Ichthyologists. An APS member since 1970, Dr. Hutchison is Professor of Zoology at the University of Oklahoma.

Dominick Purpura, M.D., has been elected President of the International Brain Research Organization (IBRO). Dr.

Purpura, a member of APS since 1957, is at the Albert Einstein College of Medicine of Yeshiva University.

APS member **Donald A. McAfee, Ph.D.,** has moved to the Nelson Research Center, Irvine, from the City of Hope Research Institute, in Duarte, CA.

Robert L. Perlman, M.D., Ph.D., has moved to the Retardation Research Center, University of Chicago, and Professor of Pediatrics and Pharmacological and Physiological Sciences. Formerly from the University of Illinois, College of Medicine, Chicago, Dr. Perlman was elected to APS membership in 1973.

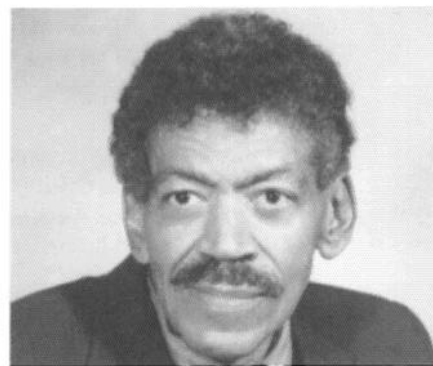
Donald C. Harrison, M.D., formerly at Stanford University, School of Medicine, has become Senior Vice President and Provost for Health Affairs at the University of Cincinnati Medical Center. Dr. Harrison was elected to membership in 1968.

George S. Malindzak, Jr., Ph.D., has accepted the position of Professor and Head of the Department of Biomedical Engineering, Louisiana Tech University, Ruston. Dr. Malindzak has been an APS member since 1966.

APS member **Elliott Albers, Ph.D.,** has moved to the Laboratory of Neuroendocrinology, George State University.

William A. Dole, M.D., Associate Professor of Medicine at the University of Iowa, has been appointed Director of Medical Research, Cardiovascular at Berlex Laboratories, Inc.

Edward William Hawthorne (1920-1986)



Edward W. Hawthorne, a member of the American Physiological Society since 1955, died on October 6, 1986. He was the former co-chairman of the Porter Physiology Development Committee and past member of the editorial board of the *American Journal of Physiology*. On Hawthorne's recommendation and persuasion, the Porter Fellowship Program adopted the mission for increasing the numbers of minority physiologists through its Physiology Development Program. He also participated in the organization of the Circulation Group (which later became the Cardiovascular Section).

Howard University is establishing an endowed **Edward William Hawthorne Professorship** in Cardiovascular Physiology. Gifts should be made payable to **Howard University/Hawthorne Professorship**. Attn: Eleanor I. Franklin, College of Medicine, Howard University, Washington, DC 20059.

ANNOUNCEMENTS

(Continued from p. 12)

Dautrebande Prize For Physiopathology

In accordance with wishes of its founder, the "Fondation de Physiopathologie Professeur Lucien Dautrebande" will award a prize every three years. This is an international prize whose aim is to reward an author, or several authors who have been associated for a long time, for a human or animal clinical physiopathology project, preferably involving therapeutic implications. If need be, and at the decision of the Foundation, this prize could be shared by two awardees or groups. If they are deemed to be equally deserving of the prize, the youngest will be favored. Its purpose is to allow the winners to continue investigations that are sufficiently advanced as to deserve substantial help or reward. The prize will next be awarded in 1988. This prize will amount to approximately 3,000,000 BF. Further information can be obtained from the Foundation by writing to Dr. J. Stalport, Avenue Batta 3, 5200 HUY Belgium. Applications should be sent before December 15, 1987.

Call for Symposia Nominations

IUPS Congress at Helsinki

The scientific program committee for the Centennial XXXI International Congress of Physiological Sciences meeting in Helsinki, July 9-15, 1989, solicits suggestions for lecturers, intracongress symposia, and satellite symposia. The scientific program committee is looking for "thematic topics" and symposia that represent the most stimulating and productive in contemporary physiological sciences. Suggested symposia should be multidisciplinary and international in scope. Names and topics for consideration should be submitted by **March 15, 1987**, to the USNC/IUPS, c/o Dr. Martin Frank, APS, 9650 Rockville, MD 20814 or sent to Dr. Kaarlo Hartiala, Department of Physiology, University of Kuopio, PO Box 6, SF-70211 Kuopio, Finland by May 1, 1987.

1988 APS Spring Meeting

The APS Program Committee solicits suggestions from the membership for the 1988 Annual Meeting symposia to be presented in Las Vegas. Because the Committee will select the sessions in April 1987, your proposals should be submitted to your section's Program Advisory Committee (PAC) representative by **March 15, 1987**, or earlier to receive proper consideration. The names of the PAC representatives can be found on page xiv of the FASEB Directory 86/87. Additional information for preparing proposals can be obtained from your PAC representative or the APS Membership Services Office (301-530-7171).

APS Sustaining Associate Members

The Society gratefully acknowledges the contributions received from Sustaining Associate Members in support of the Society's goals and objectives.



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Thematic Approach for 1987 APS Fall Meeting

The 1987 Fall Meeting, scheduled for October 11-15, 1987, at the Town and Country Hotel, San Diego, CA provides another opportunity to reflect on our past and prepare for the future during this, the Centennial Year for the Society. The meeting should be scientifically rewarding and will provide an opportunity to meet with members of the Latin American Association of Physiological Sciences (ALACF).

This year's meeting will build on the experience in New Orleans during which the thematic approach for the Fall Meeting was implemented. The scientific program for the 1987 Fall Meeting will consist of three major themes that include workshops, tutorial lectures, and symposia. The meeting also includes two mini-themes, a teaching symposium, an afternoon session on Career Opportunities in Industry, and a continuation of the series initiated in New Orleans dealing with Integrative Aspects of Physiology. There are three major themes.

THEME I: Hypoxia & Hypometabolism. Organizer: W. Milsom.

Theme I is sponsored by the Cardiovascular; Comparative; Environmental, Thermal, and Exercise; History; and Respiratory Sections and is designed to deal with hypoxia and hypometabolism in vertebrates and invertebrates. In addition to several tutorials, plans call for a workshop on "Limits of Gas Exchange & Transport in

Invertebrates," which will deal with aspects of teaching and methodology.

THEME II: Neural Principles of Pattern Generation. Organizer: R. Lydic.

Theme II is sponsored by the Nervous System, Comparative, and Respiratory Sections. The theme also includes four tutorial lectures and a workshop examining current neurophysiological techniques such as the tissue slice preparation and intracellular/extracellular recording in vivo.

THEME III: Molecular Transport & Exchange in the Cardiovascular System. Organizer: J. M. Downey.

Theme III, sponsored by the Cardiovascular Section with assistance from members of the Biomedical Engineering Society, will include tutorial lectures and two workshops dealing with modeling and electrophysiological recording techniques.

In addition to the three major themes that will run throughout the four-day meeting, the program committee approved two mini-themes. Mini-theme I, "Molecular Biology and Physiology," will consist of a tutorial session entitled "Introduction of Molecular Biology to Physiologists" and a symposium entitled "Hormonal Regulation of Gene Expression." Plans are being made for several companies to present instrumentation workshops to demonstrate molecular biological techniques.

Mini-theme II, "Epithelial Transport in the Lung," will consist of two symposia dealing with "Bronchial Circulation and Epithelial Function" and "Solute and Water Transport Across the Pulmonary Epithelial Membrane."

As part of the meeting, the ALACF will be contributing symposia in the areas of hypertension and neurophysiology. Specific information concerning these sessions will be announced later.

As is traditional, the Fall Meeting will include the presentation of the Bowditch Lecture. The Bowditch Awardee for 1987 will be D. Neil Granger, who will present a lecture entitled "Role of Xanthine Oxidase and Neutrophils in Ischemia-Induced Microvascular Injury."

The local arrangements committee, chaired by John B. West, has graciously agreed to assist the Society in planning activities in the San Diego area. Through their diligence and assistance, the meeting should become a scientific and social success.

All APS members are urged to participate in the 1987 Fall Meeting and thereby contribute significantly to the enrichment of the meeting. The San Diego meeting will be the culmination of the Society's celebration of "A Century of Progress in Physiology" and lay the groundwork for the Society's second century. **45**

1987 APS Fall Meeting "Call for Papers" to be Mailed March 13