THE PHYSIOLOGIST

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EDITORIAL

"Hell Yes, It's a Battle."

My first duty as president of your Society was to outline the goals for my term of office, one of which is to establish for APS and its members a proactive—rather than reactive—posture in confronting antivivisectionists and their challenges to animal research.

The goals were described in the June issue of *The Physiologist*, the same issue that published a letter from Cheryl Scott of Temple University, who said that a major aim of the antivivisection movement is to ensure that animals are not "violated or tortured" and who defended the intellect of the antivivisectionists by stating that ". . . many are highly educated and better informed than the scientific community."

Her defense of antivivisectionists is based, by and large, on scientific ignorance and nonscientific statements and, therefore, is not arguable on an intellectual basis. Moreover, scientists attracted to the antivivisection movement usually lack cogent scientific credentials when compared with the curriculum vitae of scientists who do animal research.

Many of Scott's points can be countered easily, but I will not argue all of them here. One point I cannot permit to go unanswered, however, is her presentation of a traditional antivivisectionist scenario wherein someone saw an animal abused, no one was available to be contacted, no one knew who was the responsible investigator, etc.

Such a scenario is not to be found in animal research in the United States, as safeguards have been established at both the national and local levels. The nation has adopted strict guidelines that must be

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Society Encounters *Perestroika*

APS Signs Bilateral Exchange Agreement

The American Physiological Society and the Pavlov All-Union Physiological Society have signed an accord that opens the way for the first nongovernmental, bilateral exchange agreement between the two countries. The five-year agreement, which becomes effective in November, enables the two nations for the first time to exchange biomedical scientists and share information and medical research data through nongovernmental channels.

Under the agreement, each of the two societies will annually sponsor as many as four exchange physiologists who will visit, conduct scientific investigations, lecture at research institutions, and participate in national scientific meetings. The agreement also provided for the sponsorship of joint symposia for the discussion of biomedical research and for the exchange of publications, journals, and periodicals.

The agreement was signed by Franklyn Knox and Martin Frank less than six hours after the end of the Moscow Summit. The agreement to share information and data is in keeping with the spirit of cooperation and accord urged by President Reagan.

"President Reagan mentioned in his summit visit in Moscow the need for student and scientific exchanges between the two countries," Knox stated. According to Knox, "Our agreement is timely and in keeping with that spirit."

The agreement was developed as a result of the visits of John West and Orr Reynolds to the Soviet Union in 1985 (*The Physiologist*, vol. 28, p. 463–464, 1985). The resulting desire to "strengthen links between the two physiological societies" was followed by the participation of Soviet physiologists in each of the subsequent Spring Meetings.

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Signers of the bilateral exchange agreement (*left to right*). Alexei Ivanitsky, scientific secretary of Pavlov's All-Union Physiological Society; Oleg Gazenko, society president; Franklyn Knox, APS past president; Martin Frank, APS executive director.

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adhered to by all investigators using research animals, and all experimental protocols involving animals are evaluated and monitored by the institution's animal care and use committee.

The idea of animal differences being a scientific problem, as Scott presented in her letter, is an example of scientific ignorance. Many breakthroughs and scientific advances are the direct result of information gained from different animal species. I would urge all antivivisectionists to simply learn how experiments conducted on crayfish, squid axons, frog skins, *Necturus* nephrons, etc., were so important to our understanding of biological pluses, especially in understanding the human nervous system and some renal functions. The very fact that these species exist provides a window for specific research efforts. Nobel prizes were awarded for these nonprimate systems.

The suggestion that computer modeling can replace animal experimentation is a worn out, nonscientific argument similar to the notion that isolated cells can replace animal experimentation. A case in point is recent cell research that clearly shows that cells differentiate in culture and are not the same as the cells that were initially isolated.

This is not to imply, however, that research on cells is not valuable research but is an acknowledgement that cell research is only one of several appropriate research techniques, including the use of animal models, needed to obtain answers to biological questions.

How does the American Physiological Society intend to challenge the scientific ignorance and nonscientific arguments of the antivivisectionists? One way is to develop proactive initiatives that will involve active participation by our membership. To accomplish this the Society's leadership has taken these steps:

1. The Committee on Governmental Relations Initiative Programs (GRIP, as in "to get a grip on") was formed to evaluate issues that would restrict the use of laboratory animals and to develop strategies to counter "animal activists" battling—hell yes, it's a battle and the line has been drawn—to abolish all animal research. The committee's chairman is David J. Ramsay.

The committee already has taken an active role in alerting the membership of the Society's concerns about the Pet Protection Act proposed by the Congress and is continuing the APS efforts to make break-ins, thefts, and vandalism at federally funded research institutions a federal offense. The committee also will conduct a survey of the membership to identify individuals who could be key contacts in the Society's governmental relations programs.

The GRIP Committee also has three subcommittees undertaking special projects. The tasks of the subcommittees are

- to identify APS members' concerns about AAALAC (American Association for the Accreditation of Laboratory Animal Care) regulations and procedures and develop recommendations to be presented to AAALAC (Arthur C. Guyton, chairman);
- to develop a source book/newsletter that would include advice for APS members on how to develop local coalitions, where materials such as videotapes, pamphlets, etc., may be obtained, roster of knowledgeable speakers, and background information on current issues (Richard L. Malvin, chairman);
- to conduct the day before the Spring Meeting a workshop on the affect of state sunshine laws on institutional animal care committees (Fred W. Zechman, chairman).

2. The Public Affairs Executive Committee has initiated a series of projects that will *1)* establish a network of nonscientific organizations (farmers, stockmen, etc.) concerned with animal issues; *2)* develop relationships with science fairs wherein APS can be involved as cosponsor for special programs, such as essay contests; and *3)* create long-term programs that can be used to educate and inform the public, including elementary and high school teachers, about the need to use laboratory animals. Malvin also is chairman of this committee.

3. The Animal Care and Experimentation Committee, also headed by Ramsay, is drafting proposed legislation that would amend the Animal Welfare Act to include

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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.**

Headquarters phone: (301) 530-7164. TELEFAX: (301) 571-1844.

APS Presidents Visit With South American Physiologists

I began my trip with a visit to Santiago, Chile, where I was the guest of Renato Albertini, the President, and Ramon Rosas, the Secretary of the Latin American Association for the Physiological Sciences. I was also the guest of Elisa Murasic, who is the current President of the Chilean Society of the Physiological Sciences. Albertini is also President of the Biological Society of Chile. During my visit to Santiago I complied with a request from Albertini and Rosas to give a lecture on "Is Physiology in Crisis?"

I spent a majority of my time visiting the laboratories of physiologists in Santiago. Physiologists are housed in three departments: the Department of Physiological Sciences at the Catholic University of Chile, and the Departments of Physiology and Biophysics in the Faculty of Medicine, and in the Faculty of Sciences at the University of Chile. In general, the physical facilities are somewhat better at the Catholic University. The medical library at the Catholic University is the best in Chile. The Catholic University has also just opened a primate facility that is contiguous to the Department of Physiological Sciences. Despite the somewhat better facilities at the Catholic University, it is possible to make a number of generalizations about physiology in Santiago. In all three departments I found extremely enthusiastic and productive scientists. The areas of research that I encountered are primarily related to endocrinology and cardiovascular-renal sciences, although other areas were represented as well.

I was impressed with the fundamental nature of much of the work that was presented to me. For example, the membrane biophysics group at the University of Chile is using patch-clamp techniques to study behavior of single channels in cultured cardiac myocytes. The young investigator who won the prestigious Houssay Award at the Congress Association of the Latin American Physiological Sciences is studying the expression of angiotensin II receptors in xenopus oocytes following microinjection of messenger RNA. Many of the investigators in these three departments have long-term ties with investigators in the United States. The membrane biophysics group has a joint NIH grant with the Physiology Department at UCLA. Others regularly commute between departments in the United States and Chile to conduct their research. In contrast, other investigators seem to be able to accomplish their entire research program without much input from North American laboratories. In summary, my main impression of the physiological sciences in Chile was that there are a number of extremely active and modern physiologists who are doing work of an international class.

Representatives of the Association Latino Americana de Ciencias Fisiologicas. *Third row* (*left to right*): E. Marusic (Chili); H. Sparks (USA); A. Taylor (USA); E. Bustoj Obergon (Chili); R. Rozas, permanent secretary of ALACF (Chili); A. Montero (Colombia); J. M. Anias (Cuba). *Second row*: C. Libertun, president (Argentina); M. Bravo (Cuba); E. P. Zumino (Argentina); M. Marquez (Brazil); R. Albertini, past president (Chili); Corredor (Colombia); C. R. Farge (Peru); V. Pacheco (Bolivia); M. Penna (Chili). *First row*: G. Malnic (Brazil); Munoz (Mexico); M. Pisarev (Argentina); E. del Castillo, treasurer (Argentina); R. Velluti (Uruguay); R. Calandra, secretary (Argentina).

There are approximately 250 physiologists in Chile, of which 110 are members of their Physiological Society. To become a member of the Society, a candidate must present a paper that is judged acceptable by the membership.

Despite the quality and productivity of Chilean physiology, we may be able to be of help. First, although the Chilean physiologists are very enthusiastic about the opening of the American Physiological Society membership to all qualified physiologists in the Americas, this has little practical significance for them. This is because the membership fee is far out of reach for the average physiologist. They pointed out that their membership in their own society costs $12 a year. Many physiologists in Chile are making approximately $500 a month and cannot simply afford the membership fee we charge. They raised the question of whether it would be possible to lower the membership fee for those individuals living in developing countries. We also discussed the possibility that an affiliation could be developed between the Chilean Society and the American Physiological Society. If this were done, perhaps we could arrange certain benefits of the American Physiological Society without cost or at very low cost to Chilean physiologists.

The Chilean physiologists are very worried about the access to physiological journals. The budgets of the university libraries are being cut every year. They were interested in the possibility that they would be able to obtain the *American Journal of Physiology* and the *Journal of Applied Physiology* at reduced rates. For example, they would be very willing to pay the postage if we would supply these two journals to them. Although they currently take these journals in their main library, the possibility of receiving these at a reduced rate would open up the opportunity to subscribe to other physiological journals.

Although many of the Chilean physiologists have connections that they develop during postdoctoral training in the United States, they like the idea of having a sister department very much. This would consist of a more or less formal linkage between a department in the United States and the department in Chile. They felt that this might facilitate the exchange of personnel and foster joint research programs. They have one example of this in their membrane biophysics group, and they are eager to explore other possible linkages. We

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Teaching in China

Roger Thies
University of Oklahoma College of Medicine

I am spending my sabbatical year from the University of Oklahoma College of Medicine in the People's Republic of China. I am a visiting professor at Hunan Medical University in Changsha, Hunan Province. I wanted to teach in China to stretch my teaching abilities and to experience another culture. It has been a satisfying experience and one that I recommend to other teachers in basic science departments. My wife has taught oral English, with occasional help from our teenage daughter. The Chinese have welcomed us enthusiastically and have appreciated our contribution as foreign teachers.

I began corresponding with the president of the university and the chair of the physiology department a year before my sabbatical began. Even then, the Ministry of Health did not finally approve some local support for my visit until I arrived in Beijing on my way here. Many American physicians spend up to a month teaching clinical subjects in Chinese medical colleges, but few basic scientists have done so. As far as I know, I am the first Westerner to spend a year teaching Chinese medical students in almost 40 years.

I am able to teach physiology in English without translation to a special group of students. English is the primary second language in China. All high school students learn some English, and many of the older faculty are skilled in English, having visited the United States for extended periods of time. The 34 students that I teach have spent an extra year between high school and medical school learning English from recent Yale graduates, so their English is excellent. Hunan Medical University was founded in cooperation with the Yale-in-China Association, and Yale University is still involved in exchange programs. This "English track" group of students take all their science courses in English but normally from Chinese teachers. There are six other medical colleges in China that also have such English track classes, namely Beijing Medical University, Shanghai Medical University, Xian Medical University, Sun Yat-Sen University of Medical Sciences in Guangzhour, West China University of Medical Sciences in Chengdu, and China Medical University in Shenyang. In addition, Peking Union Medical College in Beijing enrolls 30 students per year for a six-year curriculum entirely in English.

Medical schools attract the better students, exceeded only by engineering and physics programs. There are 400 students in each class here, which is typical of Chinese medical colleges (Cooper and Lin, *J. Med. Ed.* 62: 287, 1987). The medical course generally takes 5–6 years, with biology, chemistry, physics, and advanced mathematics in the first year, "preclinical" sciences for 2 years, clinical courses for 1 year and then ward experience (internship) for 1–2 years. Since students graduate from high school ("upper middle school") at age 19 or less, they become physicians by age 23–25. This concerns the government, which is considering extending the period of training, especially since only 10% of students do postgraduate specialization. Most basic science faculty are medical graduates, and many have master's degrees in their discipline.

The physiology course where I am teaching is one 18-week semester with six one-hour lectures and one four-hour laboratory per week. I have chosen to give all the lectures and assist in the laboratory teaching, which is the responsibility of two teaching assistants (one a graduate of the English track). It is exciting to teach student laboratories after a hiatus of 15 years. All my students have a Chinese textbook (with some authors from this faculty) and an American textbook. They expected didactic lectures, but they have learned to respond to questions, to ask questions, and to discuss concepts. Having only one teacher makes this easier. They will be writing a short term paper, which they have never done, to discover that physiology is more than what is written in textbooks. This is also good preparation for becoming graduate students. Most of these brighter students will study for Master's and Ph.D. degrees in the basic sciences.

Opportunities to study for a Ph.D. in basic sciences are still very limited in China; Ph.D.s among older faculty are almost nonexistent. Only the top few medical universities and Institutes of the Chinese Academy of Sciences have Ph.D. programs. This university graduated their first Ph.D. last year, and it was in physiology. Of the first group of English-track students graduating from medical school last year, only one entered postgraduate training in clinical medicine. The rest chose basic science departments. One of the purposes of my sabbatical is to evaluate and recruit outstanding graduates to study for Ph.D.s at The University of Oklahoma or other universities.

My goal in coming here was to teach, but there are also opportunities for research. I have consulted with faculty on recording readiness potentials from patients with a computer averager and on electrophysiological recording from single cardiac muscle fibers. Medical universities in China usually have some specialized research departments in addition to the standard basic science departments. The research faculty do little teaching of medical students, although they often have graduate programs. There are many world-recognized scientists making contributions to understanding both basic science and clinical situations. The institutes of the Chinese Academy of Sciences also encourage foreign visitors to spend a few months at a time, especially the Institute of Physiology and the Brain Research Institute in Shanghai. Animals are readily available, and the problem of animal rights groups does not exist in China. The laboratories are well-equipped with instruments produced in China or imported from Europe, Japan, and the United States.

Living in China has required resourcefulness. Short-term visitors stay in the college guest house and eat in a dining room. For us the university provided a standard professor's walk-up apartment, since all faculty and staff live in university housing. We have three bedrooms (the small one we use as an office) and front and back balconies. They bought us a washing machine, refrigerator, two-burner propane stove, small electric hot water heater for showers, and air conditioner in one bedroom (for humid summer heat), which also provides some electric radiant heat. There is no central heating in homes or classrooms south of the Yangtze River, so we have learned to wear many layers of clothing this winter. Living is a little like a one-year camping trip. We buy fresh food twice a week in the local farmers' street market and cook mainly Chinese style. About once a week we prepare Western food. This year has been a wonderful opportunity to learn *taijiquan* and other martial arts. We have also traveled extensively, often seeing aspects of China that are not available to tourists.

If you want to experience another culture and contribute to international understanding, you should consider teaching in China. A stay of a few months or one semester would be sufficient. Please write to me for further information.

APS NEWS

APS/FASEB '89 Spring Meeting Symposia

Myocardial Function in Shock and Sepsis. F. L. Abel, Organizer

Congestive Heart Failure: Molecular Mechanisms and the Rationale for Inotropic Intervention. N. R. Alpert, Organizer

G Proteins and Ionic Channels. A. M. Brown, Organizer

The Cardiac Gap Junction: Protein to Pathologies. M. M. Burt, Organizer

Bronchial Circulation in Lung Edema. J. Butler, Organizer

Function and Modulation of Glutamate Receptors. E. Costa, Organizer

Genetic Determination of Ingestion. D. Denton, Organizer

Regulation and Identification of Transporters Involved in Epithelial Na and Cl Absorption. M. Donowitz, Organizer

Receptor Mechanism in the Development of Respiratory Control. J. P. Farber, Organizer

Human Colonic Fermentation of Dietary Carbohydrate: Physiological, Nutritional and Clinical Implications. C. L. Kien, Organizer

Physiological Mechanisms of Hypertonic Saline Resuscitation. G. C. Kramer, Organizer

Endothelial Barrier Function. A. B. Malik, Organizer

People and Ideas in Endocrinology. S. M. McCann, Organizer

Regulation of Synthesis of Membrane Transporters. A. McDonough, Organizer

The Proximal Tubule Interactions with the Renin-Angiotensin System. L. G. Navar, Organizer

Membrane Mechanisms of Ischemic Brain Damage. E. M. Nemoto, Organizer

The Influence of Temperature on Muscle and Locomotory Performance. L. C. Rome, Organizer

Integrative Factors in Gut Function. S. K. Sarna, Organizer

Recent Advances in the Physiology of the Vascular Endothelium. S. C. Silverstein, Organizer

Sexual Dimorphism in Regulation of Blood Pressure and Water and Electrolyte Homeostasis. L. Share, Organizer

Signal Transduction in Renal Cells. W. S. Spielman, Organizer

Functions of the Purine Nucleotide Cycle in Skeletal Muscle. R. L. Terjung, Organizer

Biologic Responses to Prolonged Infusions of Atrial Natriuretic Factor. N. C. Trippodo, Organizer

Cellular and Molecular Aspects of Growth and Contractile Activity in Vascular Smooth Muscle. R. C. Webb, Organizer

Tutorial

Using the Microcomputer in the Classroom. H. I. Modell, Organizer

Debates

Accommodation of Increased Pulmonary Blood Flow: Recruitment versus Distension? A. E. Taylor, Moderator. S. Permutt, Recruitment; J. B. West, Distension

Is Myocardial Hypoxia Necessary for Coronary Blood Flow Regulation? R. Olsson, Moderator

Is Nitric Oxide EDRF? H. Kontos, Moderator

ANF: Its Role in Body Fluid Homeostasis. G. F. DiBona, Moderator. E. Blaine, Pro; K. Goetz, Con

The Morass of Terminology in Gastrointestinal Motility and Electrical Activity. R. Summers, Moderator. N. W. Weisbrodt, K. M. Sanders, and S. K. Sarna, Participants

Guest Society Symposia

Cellular and Molecular Basis for the Influence of Nutrition on Aging and Longevity. R. A. Good (SEBM), Organizer

Development and Evaluation of Chemically Modified Hemoglobins as Blood Substitutes. H. W. Kim (BMES), Organizer

Fractal Analysis of Bio-Medical Systems. J. E. McNamee (BMES), Organizer

Modern Analysis of Complex Systems, II. R. Sclabassi (BMES), Organizer

"Mechanisms Of Adaptation To The Environment" Thematic Symposia

Central Nervous Mechanisms of Host Defense Responses. C. M. Blatteis, Organizer

The Uptake, Synthesis, and Physiological Function of Organic Osmolytes in Biological Systems. T. J. Bradley, Organizer

Factors Determining VO_{2max} in Humans. P. Cerretelli, Organizer

Adaptations to Asphyxia—Lessons From Diving Animals. R. Elsner and S.-K. Hong, Organizer

Response and Adaptation to Hypoxia: Organ to Organelle. S. Lahiri, Organizer

Frontiers in Environmental Physiology. E.R. Nadel, Organizer

Future Meetings

1988	
Joint APS/ASPET Fall Meeting	October 9–13, Montreal
1989	
FASEB Annual Meeting	March 19–23, New Orleans, LA
APS Fall Meeting	October 15–18, Rochester, MN
1990	
FASEB Annual Meeting	April 1–5, Washington, DC
APS Fall Meeting	October 7–10, Orlando, FL
1991	
FASEB Annual Meeting	April 14–18, Atlanta, GA
APS Fall Meeting	September 29–October 3, San Antonio, TX
1992	
FASEB Annual Meeting	April 5–9, Anaheim, CA
1993	
FASEB Annual Meeting	March 28–April 1, New Orleans, LA

Eleven APS Members Elected to National Academy of Sciences, Institute of Medicine

Eleven members of the American Physiological Society, including a former APS president, were recently elected to membership in the National Academy of Sciences and the Institute of Medicine.

Elected to membership in the Academy, a body of 1,500 scientists recognized for their contributions to research, were

- Robert M. Berne, University of Virginia and past president of APS;
- George N. Somero, Scripps Institute of Oceanography; and
- Robert H. Wurtz, National Eye Institute of the National Institutes of Health.

The Institute of Medicine announced the election of 40 persons to active membership, 10 to senior membership, and 8 charter members to a new membership category, foreign associates. The elections brought the Institute's membership totals to 474 active members and 301 senior members.

Six APS members elected to active membership were

- Francois M. Abboud, University of Iowa;
- Enoch Gordis, Alcohol, Drug Abuse, and Mental Health Administration;
- Eric R. Kandel, Columbia University and Howard Hughes Medical Institute;
- Joseph B. Martin, Harvard University and Massachusetts General Hospital;
- Robert W. Schrier, University of Colorado Health Sciences Center at Denver; and
- Kenneth I. Shine, University of California at Los Angeles.

APS members elected to senior membership were

- Leo K. Bustad, Washington State University; and
- Jonathan E. Rhoads, University of Pennsylvania.

See page 150 for information on the careers of these APS members.

Committee Report

WOMEN IN PHYSIOLOGY

The Women in Physiology Committee convened February 2, 1988, by phone conference to discuss the ranking and selection of abstracts for the Caroline tum Suden Professional Opportunity Award and for the Procter and Gamble Graduate Student Travel Awards. There was a total of 84 abstracts submitted. The Caroline tum Suden Awards were made to the following:

- Hyung-Mee Han, Columbia University;
- Jeffrey W. Keil, University of Texas, San Antonio;
- Douglas Light, Dartmouth Medical School;
- Kenneth Massey, University of Texas, Southwestern Medical Center, Dallas;
- Karen McGillivray, University of North Carolina, Chapel Hill;
- Mark Siskind, Boston City Hospital.

The following students were chosen for Proctor and Gamble Travel Awards:

- Brian Cos, University of Iowa;
- William Durante, University of Toronto;
- Nicholas Gantenberg, University of Alabama;
- Laura Hall, Uniformed Services University;
- Christopher Hardin, University of Cincinnati;
- Yu Ru Kou, University of Kentucky;
- Ingrid K. Krampetz, University of Manitoba;
- Fred S. Lamb, University of Michigan;
- David Mattson, Medical College of Wisconsin;
- David Osborne, East Carolina University;
- Anthony Pacitti, University of Florida;
- Nayel Moh'd Rawashdeh, Bowman Gray;
- Hal Skopicki, The Chicago Medical School;
- Holly Van Remmen, University of Texas, San Antonio;
- Allison Wilson, University of Illinois;
- Jamie Young, University of Louisville;
- Menggia Zhao, Albert Einstein.

The Committee convened again in May at the FASEB Meetings held in Las Vegas. During the year, the Committee had compiled a list of women scientists that might be available for employment. The intent was to provide a mailing list for potential employers who would send out notices of job descriptions. The Committee members felt that another list should be compiled this year by sending out a questionnaire that would be designed to determine the names, addresses, areas of interest, availability, and external grant funding for women physiologists who are currently interested in seeking employment immediately or in the future.

The Committee has made a conscientious effort to deal with the issues pertaining to the education, employment and professional opportunities for women physiologists, and will continue to do so in the future.

Helen J. Cooke, Chairperson

Section Reports

CARDIOVASCULAR

The Annual Dinner and Business Meeting was held on Wednesday evening May 4, 1988, in Las Vegas, Nevada.

Section Committee Membership

Norman Alpert will be the new Section Chairman and Douglas Griggs will be the new Treasurer. The Section also selected by mail ballot a new Section Secretary and new Nominating Committee member. Allyn Mark was elected Secretary and James B. Bassingthwaighte was elected to the Nominating Committee. The Nominating Committee is now composed of Hermes Kontos (1989), Harris Granger (1990), and James Bassingthwaighte (1991), replaces Carl Rothe (1988). Norman Alpert will serve as our Section Advisory Committee (SAC) representative replacing Loring Rowell.

James Covell and Albert Shepherd will continue to serve as Chairman of Cardiac Mechanics and Splanchnic Circulation subsections, respectively.

Section Membership

The Cardiovascular Section is open to any APS member. The current regular membership of the Cardiovascular Section is 876. This represents approximately 18% of the total APS affiliated members.

Fellows are those members of the Cardiovascular Section who have made contributions to our understanding of Cardiovascular Physiology. The current number of Fellows is 255, which is approximately 30% of the Cardiovascular Section regular membership. Nominations for new fellows must be made by at least two existing Fellows, with supporting letters sent to Steering Committee members. Nominations are then voted on by the Steering Committee. In 1988, the following members were elected to fellowship: Thomas Adair, Ranesk Bhalla, Naranyin Dhalla, David Harrison, Herbert Hechtman, Don-

ald Lund, Eugene Morkin, George Ordway, Gary Owens, and Ingrid Sarelius.

Awards

The Cardiovascular Section presents two awards. The Lamport Award is presented to an outstanding young investigator (less than 36 years of age) who has made contributions to Cardiovascular Physiology. The Lamport Awardee is selected by the Wigger's Awardee of the previous year. Aubrey Taylor selected Joey Granger, Department of Physiology, Eastern Virginia University as the 1988 Lamport Awardee. At the Cardiovascular Dinner Joey Granger was presented with a certificate and a check for $200 from the Cardiovascular Section.

The Carl J. Wigger's Award is presented in honor of the founder of the Section. Each year at the Cardiovascular Dinner Banquet, the award is presented to an outstanding Cardiovascular Physiologist in recognition of continued contributions to Cardiovascular Physiology. The award for 1988 was presented to Francois Abboud, Chairman of Medicine, University of Iowa Medical School, Iowa City, Iowa. Abboud was presented a bronze plaque and presented a lecture entitled "Neural Control of the Circulation: An Integrated View from Neurons to Humans."

Programming

Programming, which is the most important activity of the section, has been under the effective leadership of Jim Downey and Harris Granger.

The Cardiovascular Section participated in the theme "Modeling the Cardiovascular System" at the Fall Meeting of the APS in San Diego, California. This participation included four symposia, a workshop and tutorial.

In addition, the APS theme for the FASEB Meeting was "Ischemic Heart Disease," which was cosponsored with Pathology. Michael Gimbrone and James Downey coorganized eight symposia, five of which had major input from the Cardiovascular Section.

The 1989 Fall APS Meetings will be held in Rochester, Minnesota October 15–18. The themes will be **Imaging** and **Smooth Muscle**.

As mentioned, programming is the most important function of the Section and the Society. This is a difficult job and our recent programming representatives have been effective in improving the programming in Cardiovascular Physiology. However, they are often limited by the lack of input from members of the Section. Not infrequently, members of the Steering Committee have to solicit individuals to organize a symposia. All members are urged to submit ideas, suggestions and ideas concerning programming as well as to participate in organizing symposia.

Section Advisory Committee

Each year, the Section Advisory Committee (SAC) solicits information as to the status of the Section. This will include areas such as programming, elections, budget, problems, etc. The SAC also urges that the Sections provide names to the Committee on Committee's for various committee seats. This is important and all members are urged to submit names to the Steering Committee.

Conclusion

The Steering Committee often becomes frustrated in attempting to meet the various deadlines. As a result of Section governance, individual sections now have greater responsibilities. This is especially true with respect to the communication with the membership concerning various aspects of programming. The Steering Committee feels very strongly that in order to meet these responsibilities and to maintain the standards set by the SAC, APS must provide more personnel support in the management of the activities of the Section. The SAC has together with Linda Buckler taken steps to remedy this problem. Linda has been extremely helpful in the past to the Steering Committee and will develop a schedule of Section activities. The schedule will provide dates at which various mailings, elections, and program planning must be met.

Vernon S. Bishop, Chairman

ENDOCRINOLOGY AND METABOLISM

The annual business meeting of the Endocrinology and Metabolism Section of the American Physiological Society was held in Las Vegas on May 2, 1988.

Resignation

Jim Jefferson stated that A. Cherrington was unable to attend the Las Vegas meeting. Jefferson noted that Cherrington wished to resign from the Section's Council but will continue to serve until a person can be elected to fill this vacancy.

Call for Nominations

Nominees will be needed to replace Jim Jefferson and Claude Desjardins for Council and Sec/Treas, respectively, and a second Council person to replace Dr. Cherrington. Since we need two Council persons, their terms should be staggered to ensure continuity on the Council. The call for nominations will go out in the July newsletter.

Elections

Council agreed to schedule an election in the fall—November or December 1988. Newly elected officers would not take office until July, but they would be present at the March business meeting to become familiar with the issues.

Cocktail Hour

About 75 members attended the cocktail hour/business meeting. The turnout and enthusiasm was remarkably better than past years. The cocktail hour format seems to be more acceptable than the dinner. Jim Jefferson briefed members (during the cocktail hour) about the section's activities and reminded members to contribute themes for symposia. Jefferson also commented on submissions to the journal. *American Journal of Physiology: Endocrinology and Metabolism.*

Proposals for Symposia

Council discussed mechanisms to identify new and important topics for symposia. Integrate topics with other APS sections whose interests can be served simultaneously. Calls for symposia will continue to go out in the Section's Newsletter.

Fiscal Affairs

The fiscal affairs of the Section are as follows:

a. Cash on hand in APS office = $1,560 from APS, $1,300 from donations, and $112.76 left-over balance.

b. Anticipated expenses—FASEB cocktail hour = $125.

Council's Role in APS Leadership

Council members discussed the need to nominate candidates for APS Committees. Nominations need to be sent to APS before Dec 1. Jim Jefferson agreed to make these nominations.

Themes for IUPS Symposia

Has any member of Council been contacted to submit themes for Endo & Metab Symposia at IUPS? Please contact Jim Jefferson with ideas.

Newsletter Items

Council members are asked to send Newsletter items to C. Desjardins.

Claude Desjardins
Secretary/Treasurer

Honorary Membership Call for Nominations

The APS Honorary Membership Committee requests nominations for Honorary Membership in the Society. Since 1904, the Society has elected 52 honorary members recognizing their outstanding contributions to physiology. At the 1988 Spring Meeting, the Society elected **Setsuro Ebashi**, **Erwin Neher**, and **Ewald Weibel** to honorary membership.

To assist the Committee in the selection process, APS members are encouraged to submit the names of candidates for Honorary Membership. According to the By-laws, Article III, Section 4, "Distinguished scientists of any country who have contributed to the advance of physiology shall be eligible for proposal as honorary members of the Society."

Nominations for Honorary Membership should be adequately documented to demonstrate the candidate's contributions to physiology. Submit nominations to Earl Wood, Chairman, Honorary Membership Committee, American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814.

APS Membership Applications

Membership applications may be obtained from APS Membership Services, 9650 Rockville Pike, Bethesda, MD 20814. Applications received between February 1 and July 1 are considered for nomination by Council at the Fall Meeting, and those received between July 1 and February 1 are considered for nomination at the Spring Meeting of the Society.

Honorary Members

Since the establishment of Honorary Membership in the American Physiological Society, the following distinguished scientists have been elected. The year of their election is indicated.

E. D. Adrian†, Cambridge, UK (1946)
J. Barcroft†, Cambridge, UK (1946)
E. Braun-Menendez†, Buenos Aires, Argentina (1959)
F. Bremer†, Brussels, Belgium (1950)
A. Dastre†, Paris, France (1904)
P. Dejours, Strasbourg, France (1981)
D. A. Denton, Melbourne, Australia (1987)
S. Ebashi, Myodaiji, Japan (1988)
J. C. Eccles, Canberra, Australia (1952)
T. W. Engelmann†, Berlin, Germany (1904)
D. P. Feng, Shanghai, People's Rep. of China (1983)
B. Folkow, Goteborg, Sweden (1982)
R. Granit, Stockholm, Sweden (1963)
R. A. Gregory, Liverpool, UK (1981)
E. Gutman†, Prague, Czechoslovakia (1971)
B. Halász, Budapest, Hungary (1987)
O. Hammarsten†, Uppsala, Sweden (1907)
W. R. Hess†, Zurich, Switzerland (1950)
A. V. Hill†, London, UK (1946)
A. L. Hodgkin, Cambridge, UK (1952)
F. Hofmeister†, Strassburg, Germany (1904)
B. A. Houssay†, Buenos Aires, Argentina (1941)
A. Hurtado†, Lima, Peru (1959)
A. Huxley, London, UK (1981)
H. E. Huxley, Cambridge, UK (1981)
M. Ito, Tokyo, Japan (1986)
G. Kato†, Tokyo, Japan (1965)
B. Katz, London, UK (1985)
A. Krogh†, Copenhagen, Denmark (1946)
Y. Kuno†, Tokyo, Japan (1959)
J. N. Langley†, Cambridge, UK (1904)
L. Lapique†, Paris, France (1946)
G. Liljestrand†, Stockholm, Sweden (1950)
C. Monge†, Lima, Peru (1952)
G. Morruzzi, Pisa, Italy (1959)
E. Neher, Munich, FRG (1988)
L. A. Orbeli†, Leningrad, USSR (1946)
I. R. Pavlov†, Russia (1904)
E. Pflüger†, Bonn, Germany (1907)
W. T. Porter†, Dover, MA (1948)
F. J. W. Roughton†, Cambridge, UK (1957)
E. Sharpey-Schaefer†, UK (1912)
C. Sherrington†, Oxford, UK (1904)
E. T. A. Teorell, Uppsala, Sweden (1985)
K. J. Ullrich, Frankfurt/Main, FRG (1985)
H. H. Ussing, Copenhagen, Denmark (1950)
K. von Frisch†, Munich, FRG (1952)
Sir J. R. Vane, London, UK (1986)
C. von Voit†, Munich, FRG (1970)
H. H. Weber†, Heidelberg, Germany (1959)
E. R. Weibel, Zurich, Switzerland (1988)
S. Weidmann, Berne, Switzerland (1987)

†Deceased

Procter & Gamble Professional Opportunity Awards Call for Nominations

Thanks to a grant from the Procter & Gamble Company, the Society will once again be able to make awards to predoctoral students presenting an abstract at the 1989 FASEB Meeting in New Orleans. The Procter & Gamble Professional Opportunity Awards will be made to predoctoral students within 12–18 months of completing their Ph.D. degree who are U.S. citizens or hold a Permanent Resident visa. The award provides $500 and complimentary registration for the meeting.

Interested students should submit their abstract with an accompanying letter, signed by the sponsor of the abstract, containing:

- certification that the author is a pre-doctoral student and
- the approximate date of degree completion.

Awardees will be notified before January 31, 1989.

Selection of the awardees will be made by the Sections of the APS. When submitting your abstract for consideration, please indicate (by appropriate number) which APS Section should consider your abstract:

1. Cardiovascular
2. Cell and General
3. Comparative
4. Endocrinology and Metabolism
5. Environmental, Thermal and Exercise
6. Gastrointestinal
7. Nervous System
8. Neural Control and Autonomic Regulation
9. Renal
10. Respiratory
11. Teaching
12. Water and Electrolyte Homeostasis

NIDDK Travel Fellowships for Minority Physiologists

The American Physiological Society has been awarded a grant by the National Institute of Diabetes, Digestive and Kidney Diseases (NIDDK) to provide fellowships for underrepresented (black, Hispanic, and American Indian) minority students and physiologists to attend the FASEB Meeting in New Orleans, March 19–23, 1989. At the meeting, fellows will be hosted, introduced to prominent investigators, and exposed to a variety of research areas. Funds will provide transportation, meals, lodging, and complimentary registration. The specific intent of this award is to increase participation of pre- and postdoctoral minority students in the physiological sciences. Applicants need not be members of the American Physiological Society but should be a U.S. citizen or hold a Permanent Resident visa.

Advanced undergraduate, predoctoral, and postdoctoral scientists, who have obtained their undergraduate education in Minority Biomedical Research Program (MBRS), and MARC eligible institutions, may apply as may students in the APS Porter Development Program. Applications may also be submitted by minority faculty members at the above institutions.

Applications should include information on

1) academic background and experience,

2) a written statement of interest in research in physiology,

3) a letter of recommendation from the applicant's mentor,

4) a list of publications, if available,

5) a statement indicating the ethnic minority with which the applicant identifies himself/herself, and

6) an estimate of required travel and per diem expenses.

Submit applications to NIDDK Travel Fellowships, c/o Dr. Martin Frank, Executive Director, American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814.

The deadline for receipt of completed applications is **November 15, 1988**. Candidates will be notified by January 31, 1989, of the Selection Committee's decision.

G. Edgar Folk, Jr., Senior Physiologists Fund

The G. Edgar Folk, Jr., Senior Physiologists Fund has been set up through the generosity of family and former graduate students and postdocs to provide modest but helpful assistance to senior physiologists 70 years or older who no longer have grant funds available to them. The awards might be used for such purposes as attending an APS meeting to present a paper, engaging in a series of modest experiments, or completing a manuscript (paying for typists or perhaps for page charges). Recipients will be selected with the assistance of the Senior Physiologists Committee throughout the year. Names of awardees will not be made public. Mary Folk writes that the purpose of the fund is for the Senior Physiologists Committee "to have *fun* assisting colleagues and for Emeritus APS members to keep in closer touch with APS."

Inquiries concerning the G. Edgar Folk, Jr., Senior Physiologists Fund should be made to Martin Frank, Executive Director, APS.

News From Senior Physiologists

Letter to Horace W. Davenport:

Robert M. Berne has stepped down as chairman of physiology at the University of Virginia Medical Center but is continuing as a professor of physiology in full-time research. He is continuing his work with Matt Levy on the cardiovascular and physiology texts and plans to continue his hobbies of tennis, skiing, fishing, and hunting plus some traveling in the USA.

Letters to Roy O. Greep:

Eugene P. Cronkite writes, "I am definitely continuing with scientific research, primarily the study of leukemogenesis by inhalation of benezene and exposure to very low levels of ionizing radiation. My real interest in life is the exploration of the regulation of hematopoietic cellular proliferation, cell-to-cell interaction in bone marrow, and the role of the molecular hemopoietic regulators in the possible induction of acute myeloid leukemia, and, perhaps, other tumors in mice and man who are given therapeutically large amounts of granulocyte macrophage, colony stimulating factor after exposure to ionizing radiation or carcinogenic chemicals."

Edward D. Freis retired in January 1987, but adds, "However, I still spend about one-half time working. I am still head of the hypertension unit at the District of Columbia's Veterans Administration Medical Center and I am still doing mostly research. I am no longer called 'Senior Medical Investigator,' but I am now 'Chief of the Hypertension Service' at this hospital."

Letter to Steven M. Horvath:

Harry Sobel writes, "I am at the Isotope Laboratory, Institute of Geophysics and Planetary Physics, UCLA (an honorary appointment) trying to develop a program to study environmental changes produced in resistant proteins such as collagen (e.g., in parchment), keratin, and silk fibroin for archeological purposes. I am also trying to update my aging theory and trying to collect all data on the effect of age on diffusion and permeability of all substances and the consequences of any changes. In fact, I would appreciate collaboration with any interested persons."

Letter to John Brobeck:

Harry D. Patton is "practicing full time retirement with great glee and enjoyment. I drop by the lab now and again to see old friends . . . but I don't engage in any work that is of any benefit to mankind. We have a 32-foot boat . . . [and] in the summer we take her up the inland passage through British Columbia and southeast Alaska where we fish and enjoy the scenery.

"And then we travel a fair amount. We have gone to Kenya, Egypt (a trip up the Nile), London, Yucatan, Tahiti, Bora Bora, Greece, Belize, and so on. The trip to Egypt was exciting—we unwittingly timed our arrival in Giza to coincide with a major riot. We were awakened in the middle of the night to rifle fire, machine guns, tracer bullets, burning buildings, and tanks. A bullet came through the window missing Barbara by a few feet. We got out the next morning safely and continued our trip up the river without incident."

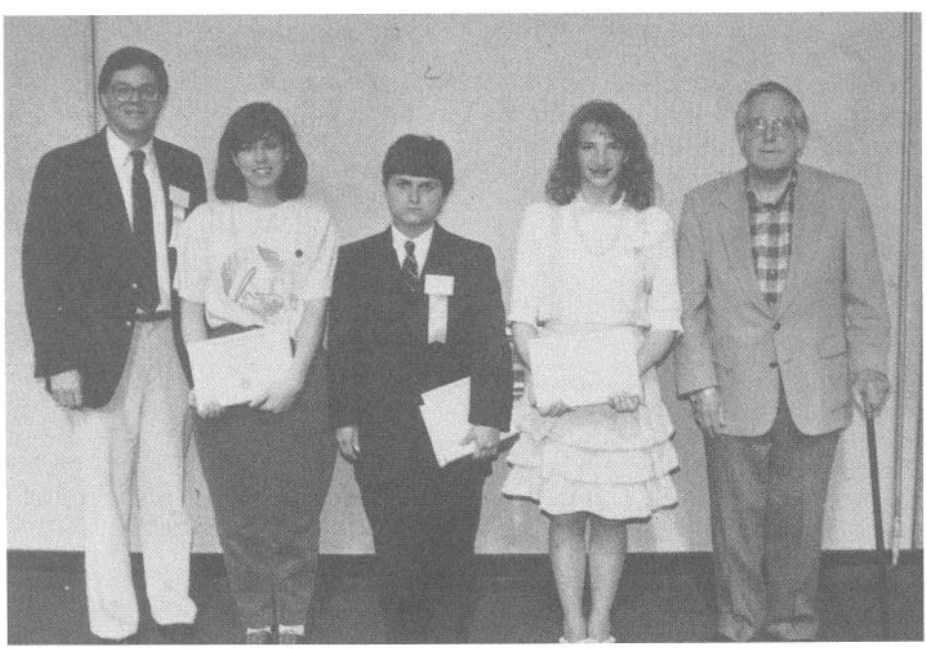
Review of Physiology Video

Physiology, An Inside View

One of the problems we physiologists have is explaining to others why we find what we do so exciting and fulfilling. Another problem we have is ensuring that there will be a new generation of physiologists to take our place when we are gone. The new video, *PHYSIOLOGY, AN INSIDE VIEW*, available from the American Physiological Society can help with both of these problems. This 28-minute video was originally produced in Britain by the Physiological Society. The video presents a broad overview of physiology from the cellular to the whole-body level in a format suitable for junior high students to adults. The video focuses on several research projects to present to the viewer a description of what physiology is, what tools physiologists use, and why the study of physiological processes is so important. Segments on the physiology of exercise, a patient with Parkinson's disease, telemetry studies of flying geese, cell culture studies, cold water immersion studies, and the physiology of space flight give a broad overview of modern physiology. The on-camera narrator brings a lot of enthusiasm to his job and is even willing to have himself dunked in cold water to explain the concept of homeostasis. The production qualities of the video are quite good and the video keeps the viewer interested throughout. I recently showed the video to a group of undergraduate biology students who were involved in a summer research program. Most of the students said that their interest in physiology was increased by viewing the video. Other comments they had regarding the video included that it was the right length, that it was not boring, that the narrator showed a lot of enthusiasm, and that it showed that physiology was a modern science.

Although the video is a good introduction to physiology, it does have a few weak points. The narrator has a heavy accent, which makes understanding some of his speech difficult. In addition, the accent and the narrator's enthusiasm were perceived as somewhat humorous by our students. Other concerns our students had about the video were that no women scientists or scientists who are members of minority groups are shown, although one woman technician is shown briefly, that no mention of informed consent was made in the segment on cold water immersion of a helicopter pilot, and that almost all of the segments featured the accomplishments of British physiologists. Some American students, particularly women and members of minority groups, thus might have problems identifying with the physiologists shown in the video and seeing themselves as physiologists. This problem could be helped by a short discussion about careers in physiology that should take place after the video is shown. Despite these weak points, the video is quite good and well worth showing to junior high, high school, and college students or any other group whose members may have a interest in physiology. I plan to use the video as an introduction to both my human physiology course and the physiology section of our introductory biology courses. The video is an excellent resource for encouraging young people to enter into a career in physiology and for showing lay people the excitement we experience in our work. A copy of the video is available from APS headquarters for the extremely reasonable cost of $20.00.

Christopher Barney



APS Winners at Ohio's Science Day. The American Physiological Society sponsored four awards at Ohio's State Science Day program at Ohio Wesleyan University. Shown her are APS members Bruce Biagi (*left*) and Kenneth Hanson (*right*), of Ohio State University, who were judges for the physiology section, and award winners (*left to right*) Jeannine L. Taylor, Cory R. Buford, and Celina M. Loebick. The fourth winner (not pictured) was Douglas K. Dangler. This was the third year APS presented certificates of award at the Ohio science day program.

Ohio Physiological Society Symposium on High-Tech Physiology

The Ohio Physiological Society Third Annual Symposium entitled "High-Tech Physiology" will be held on Friday, November 11, 1988 at Case Western Reserve University. Speakers will include Dr. Britton Chance, University of Pennsylvania; Dr. Fredric Fay, University of Massachusetts; and Dr. Guy Salama, University of Pittsburgh. More information can be obtained by calling (216) 368-5517.

Moving?

If you change your address or telephone number, please notify the APS office (301-530-7171) as soon as possible.

the support of biomedical research.

As indicated earlier, we also visited Institutes in Leningrad and Tbilisi. In Leningrad, we visited the Sechenov Institute of Evolutionary Physiology and Biochemistry and the Pavlov Institute of Physiology. Director Vladimir Suidersky and Deputy Director Anatolii Danilov met with us at the Sechenov Institute and discussed the research efforts of the investigators. Because of limitations on our time, we were unable to meet with the scientists in the institute or visit the laboratories. Similarly, our visit with academician Vladimir Govyrin and Nicolay Suvorov at the Pavlov Institute was brief. However, we did have the opportunity to visit many of Pavlov's experimental rooms as well as his home, which are maintained as museums. Much of the research done at the Pavlov Institute is performed at their laboratories outside of Leningrad, which we did not visit.

In Tbilisi, we visited the I.S. Beritashvili Institute of Physiology where we were hosted by Deputy Director Nodar Mitagvaria. The 17-story institute was founded by Beritashvili, a contemporary of Pavlov. The entire institute focuses on research interests of Beritashvili. Studies range from electrophysiological aspects of isolated neuroglial cells to studies of the organism under conditions of behavioral modification. Mitagvaria's research was focused on behavioral influences on the cerebral circulation.

Throughout our visit, our host and almost constant companion was Professor Alexei Ivanitsky, Chief of the Electrophysiological Laboratory at the Serbsky Institute of General and Forensic Psychiatry in Moscow. Professor Ivanitsky also serves as the Secretary of the All-Union Physiological Society and was a signer of the agreement along with Oleg Gazenko.

For the physiological community, the agreement signed in Moscow on June 2, 1988, is one of the very first dividends of Mikhail Gorbachev's *glasnosi*. For too many years, researchers in the two nations moved on parallel paths while political restrictions limited scientific collegiality. No longer shall we encounter severe restrictions, as exchange physiologists will be permitted to visit laboratories that correspond with their research interests. Such interchange of information and data undoubtedly will be beneficial to the world in the treatment, cure, and prevention of disease.

Society members interested in participating in the exchange agreement or desiring additional information should contact Martin Frank at the APS Headquarters.

Martin Frank

SOUTH AMERICA
(*Continued from p. 135*)

agreed that such linkages would not be monogamous relationships. They encourage the APS to find departments in the United States who might be willing to develop such linkages.

The Chilean physiologists are very worried about the access to physiological journals.

They also were very much in favor of a clearing house that would provide potential sites for training of Latin American postdoctoral fellows as well as sabbatical leaves. Again, in many cases previous connections with the United States provide avenues for such visits. However, some Chilean physiologists simply do not have an appropriate contact. They encouraged the American Physiological Society to develop a means by which they could become aware of potential placements in the United States. They would also be very interested in hosting American scientists who wish to spend time in their laboratories.

Next, I visited Buenos Aires to attend the XVI Congress of the Latin American Association of the Physiological Sciences. This Congress was organized by Carlos Libertun and his local organizing committee. This included physiologists from all over Argentina. Aubrey Taylor delivered a lecture in honor of Eduardo Braun Menendez on transport of macromolecules across capillary endothelium in vivo. I gave a lecture on the use of magnetic resonance spectroscopy to study the cellular signal for adenosine release. I also participated in a symposium on the development of human resources in the physiological sciences where I was asked to comment on postdoctoral training in physiology for Latin American scientists in the United States of America. At the meeting in Buenos Aires both Taylor and I had an opportunity to discuss a number of issues concerning Latin American physiology. A very productive session was a meeting with the entire Directory of the Latin American Association of the Physiological Sciences. At this meeting individuals from a number of nations expressed an interest in affiliation with the American Physiological Society through their national societies. They underscored the prohibitive dues structure of the APS for individual members. They also described a number of existing linkages with institutions in the United States. For example, the University of Maryland has a relationship with the Training Advisory Committee of the National Research Council of Argentina. Brazil has an equipment exchange program by which universities in the United States buy equipment as a part of joint research projects. Some of this equipment is then transferred to Brazil. The Directory supported the development of linkages between the APS and national societies but felt that the Association might be able to serve as a distribution point for information. This is because it may be difficult for the APS to keep a current accounting of the officers of the national societies. The permanent secretariat for the Association will have this as a primary responsibility and will be willing to serve as a distribution point. This individual is Ramon Rosas of the Catholic University in Chile.

The Directory expressed enthusiasm for both the sister department and the clearing house ideas. It encouraged the Council of the American Physiological Society to adopt these programs. They also were enthusiastic about the possibility of receiving books and journals at reduced rates. Again, details of these arrangements were made to be worked out, but it seems as though the ALACF may be the best route for the distribution of information concerning any such programs.

During the week in Argentina, I also visited cardiovascular research laboratories in Buenos Aires and La Plata. In Buenos Aires I visited the Favaloro Foundation which was established by Dr. Favaloro, a well known cardiothoracic surgeon. It is worth mentioning this organization because it appears that this may be a model for other similar foundations in Argentina. In each case, a well-known physician or scientist develops a means for private funding of a research foundation. Frequently clinical income is a major source of funds for research. These institutes provide an alternative to national funding for research that can be quite attractive. The work going on at the Favaloro Foundation is of high quality and is conducted under conditions that are superior to those found in most of the universities in Argentina. I also visited the University of La Plata, which is approximately an hour and a half drive from Buenos Aires. The physical facilities at this university leave something to be desired, but there is an excellent cardiovascular program headed by Horacio Cingolani. As in Chile, I was struck by the productivity of these scientists who are working under far from ideal conditions. I also visited the

Mainetti Foundation, which has an orientation toward oncological research. Like the Favaloro Foundation in Buenos Aires this is largely the result of efforts of an individual physician who has turned his attention to developing research. My host in La Plata was a young endocrinologist, Rudolfo Goya, who is particularly interested in the physiology of aging.

I had a number of discussions with individual Latin American physiologists who were in Buenos Aires representing their national societies. Among these was the opportunity to discuss potential for relationships between the Cuban physiologists and the American Physiological Society. The President of the Cuban Society for Physiological Sciences, Ernesto Bravo Motarazzo, told me that there is a major push in Cuba to expand their capabilities in the area of biotechnology. This relates to an overall plan for economic development in the country. As a part of this, they are very anxious for exchanges between American and Cuban biologists. Because of the poor diplomatic relations between Cuba and the United States, this is a challenging and somewhat discouraging process. I reminded Bravo of the visit of Dr. Bohr to Cuba during his President-Elect tour some years ago. I indicated that the American Physiological Society was interested in developing relationships between physiological scientists throughout Latin America including Cuba.

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Finally, I visited Quito, Ecuador. I had arranged a visit to Ecuador to gain an appreciation for the state of physiology in a Latin American country that is not well known for producing outstanding physiologists. At present there are no formally trained physiologists in Ecuador. The Department of Physiology consists of a single teaching laboratory with a modest complement of equipment. There are very few faculty offices and there are no full-time faculty members. Physiology is taught by practicing physicians who have part-time appointments in the department. My host was a young physician who has an interest in bringing physiology to a higher state in Ecuador. This individual, Cesar Izquiterdo Jimenez, is spending more than half of his time teaching physiology and is interested in a full-time career in physiology. I promised to try to help him find a postdoctoral position in reproductive endocrinology in the United States. He is going to try to organize an Ecuadorian Physiological Society so that Ecuador can become part of the physiological community of Latin America. At present, no one in Ecuador attends the meetings of the Latin American Association for Physiological Sciences. The library at the University of Ecuador does not take any of the journals of the American Physiological Society. The librarian showed me the collection of the *American Journal of Physiology*, which stops sometime in the 70s. She says that they stopped subscribing to the journal because they did not have funds. She was very excited about the possibility of restoring it to the shelves through some sort of a gift program.

. . . there is a major push in Cuba to expand their capabilities in the area of biotechnology.

There is strong evidence that progress can be made in Ecuador. The Biochemistry Department has three investigators who are working on the effects of dietary calcium on high blood pressure. They are supported by a grant from an international foundation. Evidence of their dedication to their work is that all three investigators share a salary budgeted in the grant for one investigator. I have a sense that there are individuals in Ecuador who are interested in physiology who would be willing to help build the science but they need help from the outside. I experienced some evidence of the difficulties scientists in Ecuador face when we left the University. The students had organized a strike to protest an increase in bus fares. To leave, we had to drive up on the sidewalk to avoid a line of fire that the students had placed across the street. It was only after my host had assured the students of our sympathy with their cause that we were allowed to pass.

In summary, if the American Physiological Society is to live up to its name, there is much to be done to improve our linkages with Latin American physiologists. In doing so we must take into account the rather severe conditions under which they do their work. I think it is up to us to find ways to make the Society accessible to them and to encourage APS members to reach out to help.

Harvey V. Sparks, Jr.

POSITIONS AVAILABLE

Postdoctoral Research Associate. Position available to study the biochemical mechanisms of hormone action in membranes and the cellular mechanisms of urinary acidification. Preference given to Ph.D. in biochemistry with expertise in one or more of the following areas: enzymology, receptor assays, flow cytometry, lipid chemistry. Salary negotiable depending upon expertise; excellent benefits. Send curriculum vitae and the names and addresses of three references to Dr. Sandra Sabatini, Dept of Internal Medicine, Texas Tech University HSC, Lubbock, TX 79430. [EOE]

Human Cardiopulmonary Exercise Physiologist. Faculty position available for an M.D. or Ph.D. interested in developing a strong research program in human cardiopulmonary and/or exercise physiology. Candidates should have a solid publication record and demonstrated expertise in obtaining independent research funding. Opportunities are encouraged for collaboration and formal interaction among the Divisions of Pulmonary Medicine, Occupational Medicine, and Environmental Physiology within the Departments of Medicine and Environmental Health Sciences. Interested candidates should contact Solbert Permutt, M.D., Search Committee Chairman, Department of Environmental Health Sciences, Division of Environmental Physiology, The Johns Hopkins University School of Hygiene and Public Health, 615 N. Wolfe Street, Baltimore, MD 21205. Phone: 301-550-0545. [EOAEE]

Cellular/Molecular Physiologist. Faculty tenure track position in the Biology Department is available for August 1989. The position is at the Assistant Professor level, although outstanding candidates with more experience will be considered. The successful candidate will be expected to develop a productive, extramurally funded research program and alternately teach an undergraduate physiology course and a specialty graduate class. All research areas to be considered, although candidates who complement existing strengths in endocrinology, muscle physiology and neuroscience are especially desirable. Send application letter, complete curriculum vitae, statement of research and names of at least three references by December 15th to Dr. Peter Abramoff, Biology Dept., Marquette University, Milwaukee, WI 53233. [EEOAA]

OPINION

To the Editor

The June 1988 issue of *The Physiologist* contained communications which reveal in the most pointed way a difficulty facing the biomedical community. Larry Horton carefully outlined the program of animal activists, pointing out that they are a destructive force whose aim is total abolition of the use of animals in research. Cheryl Scott, on the other hand, reiterates many of the unsupported claims of the avowed antivivisectionists as well as making the most basic errors of scientific reasoning.

Scott seems to believe scientists treat their animals only as "lab reagents" and care nothing about their welfare. I suppose this view comes from a few alleged cases. Is that how her science is done, by picking an aberrent experiment and extrapolating to the general conditions? She notes that even if we have not witnessed abuse, "it does exist." It seems it is no longer necessary to document charges.

Scott argues that a single base pair alteration may lead to a significant difference in function of a protein. This in turn invalidates much (all?) application of knowledge gained from animals to humans. Can she seriously believe that the physiological knowledge gained from a study of rats, dogs, even fish cannot be applied to humans? Did Claude Bernard, August Krogh or Julius Comroe live in vain?

Scott charges that even a "panel of experts" cannot keep abreast of the literature so ". . . many projects are funded of no value. . . ." (It is an interesting insight to her thinking that she places quotation marks around the words, panel of experts.) Is she suggesting that animal activists are better judges of the worth of a research proposal than a panel of experts?

Finally, she bemoans the fact that we perceive the animal activists as foes of biomedical research, rather than people who are only "trying to raise the consciousness of scientists about very real issues." With her personal experience with the "vast majority" of animal activists, Scott is surely aware that nearly every animal activist society has clearly enunciated its goal: to stop animal research entirely.

In Michigan, the Michigan Humane Society has stated, "the Michigan Humane Society is against live animal experiments, no matter where the animals are take from."[1] All societies with the label "antivivisection" in their title have as their stated goal the abolition of animal research, for that is the meaning of antivivisection. Societies such as People for the Ethical Treatment of Animals (PETA) are clearly abolitionist. These groups are not trying to learn the truth about animal research; they are trying to put an end to it.

The biomedical community is under attack. If we do not respond, research and the health and well being of all humans will suffer. Larry Horton said it well: "Spectators will not determine the outcome; players will." I hope our membership will become active players.

Richard L. Malvin
The University of Michigan

[1] Michigan Humane Society, Sept. 1980

EDITORIAL
(*Continued from p. 134*)

pounds, shelters, animal clinics and hospitals, kennels and catteries, and pet shops; developing a model pound release law for use by state and local governments; and preparing comments on the proposed Animal Welfare Act regulations that deal with exercise for dogs and the psychological well-being of primates.

It should be evident that our Society now is moving in a direction to better inform its members on animal issues by implementing the GRIP Committee recommendations and involving the public affairs and animal care and experimentation committees in the battle plans. (For those who do not believe that this is a battle, you probably have not had the shock of local government prohibiting the use of pound animals in your laboratory. The antivivisectionists clearly have set the order of battle and the time has come when we must draw the line.)

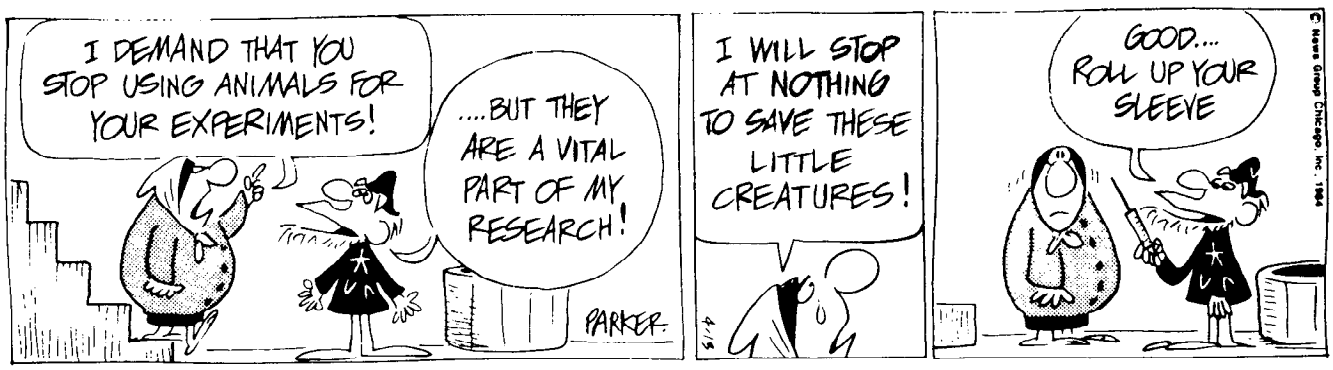
What each committee needs is input from you. I urge each of you to contact the proper chairman with your thoughts and ideas as well as any particular problems you may have in dealing with antivivisectionists. To help keep you informed *The Physiologist* has and will continue to provide important information about the activities of antivivisectionists at the national, state, and local levels and the *FASEB Newsletter* also has information concerning national legislative affairs.

I am asking all members to support these committees by becoming an active member of a network of physiologists who stand ready to respond forcefully and rapidly in the Society's proactive programs to meet the antivivisectionists' challenges to halt the use of animals in research.

Aubrey E. Taylor

THE WIZARD OF ID

by Brant parker and Johnny hart



By permission of Johnny Hart and News Group Chicago, Inc.

Ferrets, Mice, County Fairs . . . PETA Had a Busy Summer; Cancer Board Urges Halt to Restrictive Animal Laws

"The discomfort of a human does not outweigh the right of animals to live." PETA spokesperson commenting on rabies shots for a small boy and an adult bitten by a ferret later hidden by an animal rights organization.

The episode began in a northern Virginia pet shop near Washington, DC, and turned into an ongoing debate between health officials and animal activists over animal rights vs. human rights.

At issue is a ferret named Fuji who may or may not have bitten a 24-year-old man and a 5-year-old boy. The bites could have come from any one of three ferrets in a cage at a pet shop near Manassas.

Two of the ferrets were confiscated by animal control officers and were tested for rabies, which involves decapitation. The third, Fuji, is the pet of Jennifer Au, the store's 19-year-old clerk, who claims she gave the ferret to an anonymous defender of animal rights who refuses to return the animal for a rabies test, presumably because the test requires killing the ferret.

Because authorities feared the ferret may be rabid, Prince William County Circuit Court ordered Au to produce the animal or face a charge of contempt of court. The woman said that she had no idea who had the ferret or where it was being kept and the judge ordered her to jail.

After five days the judge released Au from jail and ordered her to actively search for the ferret and have it brought to animal control officers for testing. But her pleas for the ferret's return have gone unheeded and both the man and the boy have had to endure the painful shots.

Although the case has been continued indefinitely and Au has been ordered to continue her search, Judge Percy Thornton, Jr., told her, "The harm has been done all because of a designed, deliberate scheme. . . . I hope you have learned a lesson. . . . You can probably expect an onslaught of civil action." He also found her guilty of concealing a ferret to prevent its destruction or confinement, a misdemeanor, and fined her $50, half the maximum sentence. Au said she will appeal.

Carol Burnett, a spokesperson for PETA (People for the Ethical Treatment of Animals), said, "We definitely support Jennifer in that it was her right not to have the ferret die. The discomfort of a human does not outweigh the right of an animal to live. . . . Ferrets are not disposable toys. . . . They have a right to life and not to suffer."

Burnett said PETA, which claims 250,000 members and an annual budget of $3.5 million, opposes "all exploitation" of animals including their use as food and in laboratories, circuses, and rodeos.

Dr. Jared Florence, the Prince William County health director, said the case concerned him because people decided willfully to defy the law. He has proposed legislation to the board of supervisors that would ban the sale and possession of ferrets in the county because there is no federally approved rabies vaccine for ferrets.

Elliot Katz, president of In Defense of Animals, a California animal advocacy group with 35,000 members, said that "animals don't get a fair deal. Departments of health often have little concern for animals. They are bureaucrats and often have little flexibility."

The Washington Post, commenting in an editorial, termed the episode "As an example of truly unhinged, upside-down values. . . .

"It is depressing, if not surprising, to see that this style of defending animals' rights—which is, among other things, criminal—has its advocates. Consider the comment offered this newspaper by Carol Burnett, spokeswoman for People for the Ethical Treatment of Animals: 'The discomfort of a human does not outweigh the right of animals to life.' May the speaker of those complacent and profoundly nutty words never have to undergo the kind of discomfort that rabies shots inflict.

"The same organization argues that ferrets have the right to life. Questions of human health are apparently entirely secondary. You have to wonder how People for the Ethical Etc. feel about rats and the methods that any rational community uses to deal with them and the diseases they carry."

DEA Suspends Training Program Exercise to Avoid Confrontation With PETA

The use of laboratory mice in a federally sponsored training program for narcotic detectives has been halted because the instructor doesn't want a confrontation with animal activists.

The Drug Enforcement Administration's (DEA) two-week training program for local law enforcement officers includes injecting mice with illegal drugs to demonstrate the effects of drugs on behavior.

On learning that drugged mice are being used in the training, PETA complained to the DEA that the exercise is cruel, unnecessarily exploits animals, and is not scientifically valid. Mary Beth Sweetland, a PETA spokesperson, said, "I don't think it [the exercise] has any validity. I don't think you can extrapolate information from a mouse and apply it to a human."

Robert Bryden, director of DEA training, said, "For all practical purposes we are not going to do it because the instructor has decided that he doesn't want the confrontation with the animal rights group.

"I don't see anything wrong with it. I think it is an excellent teaching method. I think it works and we have had outstanding comments from police officers who have seen it in the past.

"What our long-term decision [on using the exercise] is remains to be seen. We are going to examine the facts and then we are going to make a decision. The overriding lesson to learn is worth whatever small risk there may be to the laboratory animals. I think police officers' lives are very important and I think this course may save someone's life."

The instructor, who is a pharmacologist, has been involved in the program for five years and said that he injects the mice with barbiturates, amphetamines, and other types of drugs so that the officers can observe changes in behavior. He said that he does not inject the same mice repeatedly and that the mice usually suffer no lasting effects.

(*Continued on p. 148*)

PETA Protests at County Fairs

PETA has been showing up at county fairs protesting diving mules and talking to 4-H Club members about alternatives to raising prize livestock. It also has stopped turtle racing as a part of a rock concert promotion and a guess-the-weight-of-the-cow contest.

PETA's efforts to stop a county fair exhibition of mule diving was thwarted, however, when a veterinarian hired by the Prince William County, VA animal control and county attorney offices said that the mule diving was not cruel and could proceed if the position of the access ramp was changed. The mules climb unassisted up a metal stairwell to the top of a 30-foot tower and then dive into a six-foot-deep, 20-feet-wide tank of water.

As for the 4-H Club members, PETA members said they will encourage the Club's members to turn to alternative projects because it is wrong to teach a child to raise an animal only to sell it for slaughter.

A radio station, promoting a concert by the Turtles, announced that it would conduct a turtle race at the bar of a local hotel. The race was to be between two dime-store turtles. After a protest by PETA, which claimed that the noise and atmosphere at the bar could cause damage (mostly psychological) to the turtles, mechanical turtles were substituted.

Another promotion, guess-the-weight-of-the-cow, also was called off when PETA protested the exploitation of the animal.

President's Cancer Panel, Advisory Board Voice Concerns About Animal Use Restrictions

The National Cancer Advisory Board and the President's Cancer Panel both have issued statements expressing concern about national, state, and local legislation that would restrict the use of animals for purposes of research and urged President Reagan to veto any legislation passed by the Congress that would restrict the use of animals in cancer research.

The statements were sent to President Reagan by the panel's chairman, Armand Hammer.

The panel's statement said, "The panel hereby reports to the President its growing concern that cancer research is being increasingly jeopardized by current and proposed local, state, and national legislation, by illegal activities of elements of the animal rights movement, and by public misconceptions regarding the need to use animals in biomedical research.

"The panel finds a continuing and absolute scientific need to use animals in cancer research, including research on anti-cancer and anti-AIDS drugs, vaccines, diagnostic methods, and studies of biology of cancer, its causation, and prevention. Blocking this research impedes the progress of the National Cancer Program and severely reduces its benefits for the health of the American people."

The panel requested the President "not to sign any legislation which may be presented to you by the Congress that would curtail the necessary use of animals in cancer research." The panel also urged that persons "who act illegally to disrupt such research be vigorously prosecuted."

In its resolution the cancer board noted that "progress in cancer research depends upon the humane and scientifically appropriate use of animals for research; and ... major advances in cancer research have depended on the use of animals ... and ... there are major areas of cancer research, including studies of causation, prevention, and treatment, in which the continued use of animals is essential."

The resolution "calls upon national, state, and local legislators, health professionals, scientists, and others to support the humane use of animals in research to ensure continued progress against cancer. Furthermore, the Board affirms that further proscription or curtailment of the use of animals in research threatens to paralyze future progress against cancer."

Massachusetts First to Prohibit Theft of Lab Property, Animals

Massachusetts has become the nation's first state to enact legislation recognizing the removal of property from research institution as a felony offense.

The Massachusetts legislature unanimously approved a bill that prohibits the unauthorized removal of property from any premises in which animals are housed or used for research by a research institution. The law also prohibits the interference with or the release of any animals that may constitute a threat to public health or citizen safety.

Penalties for crimes proven to be malicious and willful range from a maximum of 10 years in prison and a fine up to $25,000; for crimes proven to be willful but not malicious, the maximum penalties are 5 years in prison and a fine up to $10,000.

Senate Passes Pet Theft Act; House Action is Uncertain

In the waning hours before the start of its summer recess the Senate approved the Pet Theft Act (S. 2353). The bill had been cleared earlier in the day when there was no objection by any senator after each senate office was notified that the bill was to be placed on the consent calendar for passage without a recorded vote.

Sen. Patrick Leahy, chairman of the Senate Agriculture Committee, said, "We worked with concerned parties and altered the bill so that it is acceptable to everyone." The immediate action on the bill was requested by its sponsor Sen. Wendell Ford (D-KY) because there will be very little time for its consideration after the summer recess before the 100th Congress adjourns in October.

The Pet Theft Act was introduced last April by Ford as a replacement for the Pet Protection Act, which he had introduced almost a year earlier. The latter bill was opposed by the scientific community, including APS, whose members conducted a vigorous letter writing campaign last winter because the legislation, if enacted, would not protect pets inasmuch as it did not apply to pounds and dealers, but rather, it would make researchers ineligible for federal funds if unclaimed pound animals were used, regardless of source.

The Pet Theft Act is aimed at the pounds and dealers by requiring pounds and shelters to hold all animals for at least seven days and by prohibiting dealers to sell any unclaimed cat or dog without a certificate identifying the animal and the place and time of sale.

Although APS applauded Ford for his substitution of the pet theft bill for the pet protection bill, the Society voiced its concern that the bill would raise the purchase costs of unclaimed dogs and cats and that it only covered pounds and shelters operated by state, county, or local government and not private shelters and pounds subsidized by county or local governments. The latter provision was incorporated in the Senate-approved bill.

What action the House will take is uncertain. There is no companion bill in the House, and there has been virtually no interest in pet theft legislation. The House has had for the last three Congresses a pet protection bill identical to the Senate version that was set aside by Ford last April.

William M. Samuels

MEDICAL SCHOOL REPORT

Study Shows Publications Major Difference Between Promoted and Passed-Over Faculty

The number of publications in professional journals is a distinguishing characteristic between medical school faculty members who are promoted and those who are passed over, according to a study at The Johns Hopkins University School of Medicine.

The five-year study revealed that faculty members who were promoted had a rate of publication of more than twice that of faculty members not promoted. Moreover, there was no evidence of bias by the promotion review committees in the promotions of researchers and clinician-teachers.

The study reflects only the promotion track of the Baltimore medical school. The findings are difficult to generalize inasmuch as Hopkins is not typical of most medical schools in the United States.

It has a single-track promotion system, whereas most medical schools have separate tracks for clinician-teachers and researchers. Also, faculty members at Hopkins may serve as long as 15 years before a decision is made about tenure; the tenure track at most medical schools is 6 or 7 years.

Furthermore, the combined ranks of associate professor and professor is 50% of the school's faculty, compared to an average of 69% in other medical schools; the ratio of faculty members in the clinical departments to those in the basic science departments is 8-to-1, compared to an average ratio of 3-to-1 in other medical schools.

At Hopkins the system of promotion and reappointment applies to all full-time faculty members and the title of assistant professor can be held for 7 years before a mandatory reappointment review. If promoted to associate professor a faculty member can hold that title for 6 years before a reappointment review. After 15 years a faculty member must be given a contract extending to his or her retirement or a terminal contract.

During the years of the study (1980–1985) a total of 162 faculty members (88 clinician-teachers; 74 researchers) were promoted to associate professor and 43 faculty members (23 researchers; 20 clinicians-teachers) were promoted to professor. Twelve were denied promotion.

Faculty members promoted to associate professor averaged 23.4 publications of which 10.8 articles were published during the 3 years before the promotion. The average number of publications for those not promoted was 10.6 of which 4.4 articles were published in 3 years before being passed over. Promoted faculty members were first author on 10.4 articles, compared with 6.6 for faculty members not promoted.

Although clinical researchers promoted to associate professors had more published articles than did basic science researchers or clinician-teachers who were promoted, there was no significant difference in the number of publications as first author or in the number of publications during the three most recent years. However, a question that was raised, but unanswered, is whether clinical researchers feel a greater pressure than basic scientists and, therefore, may publish smaller units of data.

As for promotion to professor, there was no significant differences in the publications records among the faculty groups.

The study also explored the hypothesis that clinician-teachers are promoted later than either group of researchers and found that there is no significant differences based on career orientation. The mean age for promotion to associate professor is 38.8 years and 44.9 years for professor.

The study also sought both faculty and department chairmen opinions as to what are the important academic factors in decisions for promotion. Although there was agreement about the importance of creative scholarship (indicated by the combination of publications, grant support, and quality of research), faculty members thought that the greatest emphasis was placed on the number of publications while the chairmen rated the quality of research as the most important (Table 1).

There also was a difference found regarding teaching. Faculty members perceived teaching as having had little influence on their chances of being promoted; department chairmen thought teaching was second in importance only to creative scholarship.

TABLE 1. **Importance of Factors in Consideration for Promotion***

Factor	Ranked by Faculty	Ranked by Chairmen
	mean	
Publications	1.32	1.26
Grant support	1.72	1.56
Quality of research	1.75	1.20†
Clinical practice	2.58	2.73
Administration	2.64	3.14
Teaching	2.80	1.90†

* Factors were ranked on a four-point scale, from 1 = extremely important to 4 = unimportant. Only the responses of the 25 pairs of faculty members and department chairmen are included.

† $P < 0.02$ by the Wilcoxon paired signed-rank test.

This story is an excerpt from *The New England Journal of Medicine*, Vol. 318, No. 12, 1988. "Academic Promotion At A Medical School," Mark L. Bratshaw et al.

BOOKS RECEIVED

Eye, Brain, and Vision. David H. Hubel. New York: Scientific American Library, 1988, 240 pp., illus., index, $32.95.

Monoclonal Antibodies in Diagnostic Immunohistochemistry. Mark R. Wick and Gene P. Siegal (Editors). New York: Dekker, 1988, 664 pp., illus., index, $125.00.

Exercise, Nutrition, and Energy Metabolism. Edward S. Horton and Ronald L. Terjung (Editors). New York: Macmillan, 1988, 265 pp., illus., index, $44.95.

Trace Amines: Comparative and Clinical Neurobiology. A. A. Boulton, A. V. Juorio, and R. G. H. Downer (Editors). Clifton, NJ: Humana, 1988, 496 pp., illus., index, $75.00.

Exercise and Sports Sciences Review. Kent Pandolf. American College of Sports Medicine Series (vol. 16). New York: Macmillan, 1988, 551 pp., illus., index, $48.00.

Physiology and Toxicology of Male Reproduction. James C. Lamb IV and Paul M. D. Foster (Editors). San Diego, CA: Academic, 1988, 270 pp., illus., index, $75.00.

Surfactants and the Lining of the Lung. Emile M. Scarpelli. Baltimore, MD: The Johns Hopkins Univ. Press, 1988, 126 pp., illus., index, $42.50.

Man in Stressful Environments—Diving, Hyper- and Hypobaric Physiology. Keizo Shiraki and Mohamed K. Yousef (Editors). Springfield, IL: Charles C Thomas, 1988, 266 pp., illus., index, $42.50.

Methods in Bronchial Mucology. Pier Carlo Braga and Luigi Allegra (Editors) New York: Raven, 1988, pp., illus., index, $89.00.

Memory & Central Nervous Organization. Charles M. Fair. New York: Paragon House, 1988, 203 pp., illus., index, $27.95.

Neuromethods: 8 Imaging and Correlative Physicochemical Techniques. Alan A. Boulton, Glen B. Baker, and Donald P.J. Boisvert (Editors). Clifton, NJ: Humana, 448 pp., illus., index, $69.50.

The Alpha-2 Adrenergic Receptors. Lee E. Limbird (Editor). Clifton, NJ: Humana, 440 pp., illus., index, $69.50.

PEOPLE AND PLACES . . .

APS member **Juliana E. Szilagyi**, Ph.D., University of Houston, was awarded the University of Houston Research Excellence Award for 1988, the highest research award that is given a faculty member. Szilagyi's research is in the area of the brain in hypertension with specific interests in stress and opiate modulation of cardiovascular reflex control mechanisms. She earned a Ph.D. in physiology from Ohio State University with Harold Weiss and then obtained postdoctoral training at the Cleveland Clinic Foundation with Carlos M. Ferrario.

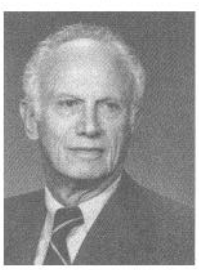
L. Gabriel Navar, Ph.D., has accepted the chairmanship of the Department of Physiological Sciences, Tulane University School of Medicine, New Orleans. Formerly with the University of Alabama, Navar has been an active member of the APS Program Committees and the Water and Electrolyte Homeostasis Section.

Various Career Paths Led to Memberships in National Academy, IOM

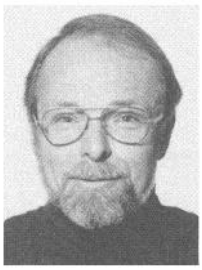
The careers paths of the 11 APS members recently elected to membership in the National Academy of Sciences and the Institute of Medicine extend into a variety of areas of research.

The careers of the three elected to the Academy include:

Robert M. Berne, who is chairman and Charles Slaughter Professor of physiology at the University of Virginia Medical Center, has been active in cardiovascular physiology with a focus on the role of adenosine in the metabolic regulation of blood flow to the heart, brain, and skeletal muscle; the chronotropic, dromotropic, and inotropic effects of adenosine in the heart; the action of adenosine in the nervous system; and the origin, mechanism of action, and fate of this nucleoside. Berne, who was elected APS president in 1972, has been a member of the Institute of Medicine since 1979.



George N. Somero has been with the Scripps Institute of Oceanography since 1970 and has been chairman of the marine biology research division since 1983. He also was the acting director of the Institute's physiological research laboratory.



His current research focuses on adaptations of membrane-localized ATPase enzymes to pressure, the reversible binding of glycolytic enzymes to contractile/structural proteins of muscle, the adaptation of mitochondrial function to temperature and pressure, and the precise amino acid substitutions that are responsible for adapting proteins to temperature and hydrostatic pressure.

Robert H. Wurtz has concentrated his research on one of the primary functions of a nervous system: how it processes sensory information for perception and the initiation of movement. His work has been centered on the visual and oculomotor systems of the brain of monkeys and he pioneered the use of awake monkeys in the study of the visual system. Wurtz is the chief of the laboratory he organized, the National Eye Institute's Laboratory of Sensorimotor Research.

The careers of the APS members elected to the Institute of Medicine include:

Francois M. Abboud, who is professor of physiology and biophyics and of medicine and is head of the department of internal medicine and director of the cardiovascular research center at the University of Iowa, has been credited for discoveries in fundamental mechanisms of neurocirculatory control and for his contributions in the discoveries of autonomic regulation of the circulation in animals and humans.

His work as a cardiovascular physiologist has not only generated fundamental concepts, but it also has extended these concepts into integrative physiology and to the pathogenesis of disease. He recently was nominated for the Association of American Medical Colleges Award for Distinguished Research in the Biomedical Sciences.

Eric R. Kandel is a professor at the Center for Neurobiology and Behavior at Columbia University's College of Physicians and Surgeons and senior investigator at the Howard Hughes Medical Institute. His research, for which he recently was awarded the National Medal of Science by President Ronald Reagan, has sought to determine on the cellular and molecular level how the brain acquires new information about the environment, stores it in memory, and reflects it in behavior.

Using an experimentally advantageous invertebrate animal, the marine snail *Aplysia*, Kandel has analyzed the cellular and molecular mechanisms of three forms of learning—habituation, sensitization, and classical conditioning—as well as the short- and long-term memory of each of the three forms. His studies have opened the way for the development of a realistic and empirical cellular neuropsychology that already is proving instructive for understanding the human brain.

Robert W. Schrier, professor and chairman of medicine at the University of Colorado Health Sciences Center in Denver, has been involved in research with acute and chronic renal disease; abnormalities of sodium and water metabolism in heart failure, liver, and endocrine disease; and hypertension. His work has resulted in 18 edited books, 180 original articles, 133 invited symposia and reviews, and 84 chapters and monographs.

Kenneth I. Shine, dean of the UCLA medical school, has been active in research concerned with the movement of ions in myocardium, particularly calcium, potassium, and magnesium exchange during normal physiologic states and in the presence of myocardial hypoxemia and ischemia.

The research by Shine has led to the development of a model of ischemia and hypoxemia in isolated perfused interventricular septa, which has allowed the laboratory to optimize the ionic and metabolic environment that is likely to enhance recovery from these two insults. The role of glutamic and aspartic acids as substrates

during hypoxia and ischemia has been characterized as well. His other research interests include atrial arrhythmias and health services aspects of cardiac care, including length of stay for acute myocardial infarction patients and the use of the electrocardiogram in the evaluation of chest pain.

Leo K. Bustad, professor of physiology in the College of Veterinary Medicine at Washington State University, has been the author or co-author of more than 200 publications on education, energy, nutrition, radiation, cancer, laboratory animal medicine, comparative medicine, and the human/companion animal bond. He has been an international leader in the use of animals to help people, especially the elderly and the handicapped, and is the author of the book Animals, Aging and the Aged. He is a former dean of the veterinary college.

Jonathan E. Rhoads, professor of surgery at the University of Pennsylvania, wrote one of the early papers on peritoneal dialysis and later several papers on prothrombin, including one in which by doing hepatectomies in dogs it was shown that the prothrombin dropped very rapidly after the liver was removed.

The research that brought him the most recognition, however, was his work in nutrition on surgical patients that resulted in papers from the 1930s through the 1970s. His research helped to break through the equilibrium barrier and found ways of giving enough in the way of nutrients to bring most postoperative patients into strongly positive nitrogen balance so that it was possible to repair nutritional deficits by the intravenous route.

People and Places notices come almost exclusively from information provided by members and interested institutions. To ensure timely publication announcements must be received at least *three months* (by the 5th of the month) before the desired publication date. Send all information to Martin Frank, Editor, *The Physiologist*, APS, 9650 Rockville Pike, Bethesda, MD 20814.

U.S. Education Secretary Author of Chapter In APS *Handbook of Physiology*

Lauro F. Cavazos, the new Secretary of the U.S. Department of Education, is the author of a chapter of the APS *Handbook of Physiology* and a contributor to the *American Journal of Physiology*. He is a physiologist but is not a member of APS.

Cavazos wrote the chapter "Fine structure and functional correlates of male accessory sex glands of rodents" for the *Handbook of Physiology*, Section 7: *Endocrinology*, Volume V, *Male Reproductive System*.

Cavazos, 61, was nominated by President Ronald Reagan in August to replace William J. Bennett in the nation's top education post. Cavazos had been president of Texas Tech University since 1980 and before that he served as dean of medicine at Tufts University. He went to Tufts in 1964 as chairman of anatomy, having spent 10 years before that as professor of anatomy at the Medical College of Virginia. He was appointed dean in 1973.

He earned his Ph.D. Degree in physiology in 1954 at Iowa State University and his research has been in the area of reproductive physiology. He also holds both baccalaureate and Master's degrees in zoology from Texas Tech.

ANNOUNCEMENTS

PHS Policy on Laboratory Animals

A program entitled "PHS Policy on the Humane Care and Use of Laboratory Animals" will be held on December 1–2, 1988, at the Stouffer Harborplace Hotel, Baltimore, MD. It is sponsored by The National Institutes of Health and The Johns Hopkins Medical Institutions, with credits 11.5 Category I AMA given on completion. *Information*: Program Director, Office of Continuing Education, The Johns Hopkins University School of Medicine, 720 Rutland Avenue, Turner 22, Baltimore, MD 21205. Phone: (301) 955-2959.

Grant Costs Increasing, Study Finds

The General Accounting Office (GAO) recently released its report on the increasing cost of NIH grants. The report found that while overall NIH funding rose 54 percent between FY 1983 and FY 1987, funding for research project grants rose 65 percent. At the same time, the number of these grants increased by 16 percent to 19,480, and their average cost rose 42.7 percent to $176,700.

Several factors were identified by GAO that might explain the increases in grant costs, including the increasing rate of the cost of biomedical research compared to the general inflation rate; the number and mix of competing and noncompeting grants; increased personnel costs; indirect costs; the increasing complexity of research, and the increased use of human or animal subjects in research.

The report noted that NIH and Public Health Service attempts to study these factors are "inconclusive and generally insufficient." It concluded that this lack of information and "limited NIH and HHS monitoring and auditing activities" warrant further study by the Department.

The House Appropriations Subcommittee on Labor-HHS-Education, which requested the report, already has asked the HHS Inspector General to review a sample of NIH extramural grants to determine if costs are being "well managed." This review is to include information on manpower utilization, salary growth and procurement practices.

The report—Biomedical Research: Issues Related to Increasing Size of NIH Grant Awards—is available from the GAO, 202-275-6241.

American College of Sports Medicine Annual Meeting

The annual meeting of the American College of Sports Medicine, New England Chapter, will be held November 3–4, 1988, at the Sheraton-Lincoln Inn, Worcester, MA. *Information*: Sharon Peachey, Boston University, 36 Cummington Street, Boston, MA 02215. Phone: (617) 353-2717.

New LSRO Study

The Life Sciences Research Office, FASEB, is undertaking a study on "Criteria for Determining the Regulatory Status of Food and Food Ingredients Produced by Novel Technologies" for the Center for Food Safety and Applied Nutrition of the Food and Drug Administration (FDA). An ad hoc Expert Panel will be convened to review and evaluate accepted concepts of food manufacturing, including nutritional, toxicological, and food technological considerations and evolving concepts of biotechnology as they apply to food bioprocessing and bioproduction. The Panel will also consider the range of issues associated with the possibility for introduction of "significant change" in foods or food ingre-