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NIHAA Update

James Augustine Shannon: An Appreciation

By Dr. Thomas J. Kennedy, Jr.

James Augustine Shannon died suddenly on May 20, just short of his 90th birthday, at his residence in the Church Home, Baltimore, of a ruptured abdominal aortic aneurysm.

Born in New York City, Shannon received his baccalaureate from the College of the Holy Cross in 1925, where he was renowned more as a "jock" (basketball and track) and playboy than as a scholar. By a stroke of luck, the then dean of New York University School of Medicine, John Wycoff, also a notable athlete, interviewed him for admission, recognized talent not discernable in Shannon's transcript and took a chance on him.

Lore has it that he was a fabulous student—graduating in 1929. Next, as a medical house officer at Bellevue, Wycoff had to rescue him once more, when Shannon toyed briefly with switching from medicine to surgery.

*(See **Shannon** p. 16)*

Dr. James A. Shannon (circa 1965)

Research Festival '94

NIHAA Members Invited to NICHD Alumni Symposium

The first morning of NIH Research Festival '94—Monday, Sept. 19—will start off with a program recognizing the National Institute of Child Health and Human Development and its alumni. This event is being celebrated with a symposium entitled "Developmental Biology: Contributions of Basic Science to Human Biomedical Research" in honor of Dr. Philip Leder, recipient of the NICHD 1994 Distinguished Alumnus Award.

In 1980, Leder went to Harvard Medical School where he now is the John Emory Andrus professor of genetics, and chairman, department of genet-

*(See **Research Festival** p. 6)*

Dr. Philip Leder

Jury Is In

Intramural Research Faces Major Renovations

By Carla Garnett

Restructure the tenure process, revamp the Clinical Center and revisit resource allocation—these are three of 11 key recommendations for renovating NIH's Intramural Research Program, according to the report by an outside subcommittee formed to study the IRP. The 10-member group—called the external advisory committee (EAC)—of the advisory committee to the NIH director undertook the 5-month review last October in response to a congressional mandate. Their deliberations concluded in February.

In all, more than 40 recommendations ranging widely from recruitment and retention of minority and women scientists to enhancement of NIH-private sector collaboration were made by the EAC, which was cochaired by Dr. Paul A. Marks, president and CEO of Memorial Sloan-Kettering Cancer Center in New York City, and Dr. Gail Cassell, professor and chair of the microbiology department at the University of Alabama at Birmingham. The cochairs were chosen by NIH director Dr. Harold Varmus and NIH deputy director Dr. Ruth Kirschstein. Several former intramuralists also served on the

*(See **Intramural Research** p. 14)*

In This Issue

Calendar of Exhibits and Upcoming Events

SEPTEMBER—DECEMBER

An exhibit on "Islamic Culture and the Medical Arts" featuring Arabic and Islamic manuscripts from the 11th through 19th centuries in the collection of the History of Medicine Division, NLM, is on display in the front lobby of the NLM (Bldg. 38, 8600 Rockville Pike). The show will start on Sept. 12 and end Dec. 31. For further information call Anne Whitaker at (301) 496-5961.

SEPTEMBER—NOVEMBER

Medicine for the Public:

Sept. 27—Schizophrenia: Out of the Shadows

Oct. 4—The Rise and Fall of Post-transfusion Hepatitis

Oct. 11—Ulcers: Diagnosis and Treatment

Oct. 18—Shingles: Another Pox on Us

Oct. 25—Viruses: The Good, The Bad, and The Ugly

Nov. 1—Reading Our Own Blueprint: The Human Genome Project

This is a lecture series on health and disease presented by NIH physicians and scientists sponsored by the Clinical Center, NIH. The lectures are free and held on Tuesday evenings beginning at 7 in Masur Auditorium, Bldg. 10. For information call (301) 496-2563.

OCTOBER—APRIL 1995

The Foundation for Advanced Education in the Sciences, Inc., will sponsor nine concerts in the 1994-95 season.

Oct. 9—Eduardo Halim, piano

Oct. 30—Bach Aria Group

Nov. 20—Gary Schocker, flute

Dec. 4—John O'Conor, piano

Jan. 15, 1995—Aulos Ensemble

Jan. 29—Cherubini String Quartet

Feb. 12—Lilya Zilberstein, piano

Mar. 5—Mischa Maisky, cello

Mar. 19—Borromeo String Quartet

Concerts are held on Sundays at 4 p.m. in Masur Auditorium, Bldg. 10. Tickets are required. For more information call (301) 496-7976.

SEPTEMBER

Research Festival '94

Sept. 19—NIH/NICHD Alumni Symposium on Monday morning from 8:45 to 12 noon in Masur Auditorium, Bldg. 10 and posters in tent..

Sept. 19, 20, and 21—Additional symposia and workshops, and interest group tent session.

Sept. 22 and 23—Technical Sales Association Scientific Equipment Show.

OCTOBER

The DeWitt Stetten, Jr. Lecture will be Wednesday, Oct. 19, 1994, at 3 p.m. in Masur Auditorium, Bldg. 10. The speaker will be Dr. Stuart L. Schreiber, professor of chemistry and cellular and molecular biology, Harvard University. The title of his talk is: "A Natural Products-based Approach to Understanding and Controlling Signal Transduction."

The George Kboury Lecture will be Monday, Oct. 24 at 3 p.m. in Masur Auditorium, Bldg. 10. The speaker will be Dr. Arnold Levine, department of molecular biology, Princeton University. He will speak on "The Functions of the P-53 Tumor Suppressor Gene."

NOVEMBER

The Leon Jacobs/Gorgas Memorial Lecture will be on Tuesday, Nov. 29, at 3 p.m. in Wilson Hall, the Shannon Bldg. The speaker is Dr. Dan Colley from the Centers for Disease Control and Prevention.

Thank you to our friends

The NIHAA warmly welcomes the following organizations that joined in the category of "Friends" and wishes to acknowledge its appreciation for their generous support:

American Association of Retired Persons
University of Alabama School of Medicine at Birmingham
American Cyanamid
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University of North Carolina School of Medicine
Parke-Davis Pharmaceutical Research
Penn State University College of Medicine & University Hospital
Medical College of Pennsylvania
SmithKline Beecham
University of Tennessee College of Dentistry

We also would like to thank Glaxo Inc., Sandoz Research Institute the Upjohn Company and Wyeth-Ayerst for bearing the considerable expense of underwriting NIHAA *Update*.

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We would also like to express our deep appreciation to the following contributors to NIHAA-sponsored events in 1992:

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Credit

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NIHAA Update

The NIHAA Update is the newsletter of the NIH Alumni Association. The NIHAA office is at 9101 Old Georgetown Rd., Bethesda, MD 20814, (301) 530-0567.

Editor's Note

The NIHAA Update welcomes letters and news from readers. We wish not only to bring alumni news about NIH, but also to serve as a means for reporting information about alumni—their concerns, information on recent appointments, honors, books published and other developments of interest to their colleagues. If you have news about yourself or about other alumni, or comments on and suggestions for the NIHAA Update, please drop a note to the editor. We reserve the right to edit materials.

Editor: Harriet R. Greenwald

NIHAA Essay

An Update on NIH

By Dr. Ruth L. Kirschstein

(Editor's note: This is the text of a talk delivered by Dr. Ruth L. Kirschstein, NIH deputy director, at the annual meeting of the NIHAA on June 18, 1994.)

Thank you for inviting me to this annual event. Last year, when you made the alumni association's first Public Service Award, I was present. Little did we know then that the honoree, Congressman Natcher, would not be with us a year later. And so, I want to start by saying a few words about Mr. Natcher. I had the privilege to testify before the House Appropriations Committee and he, as its chairman for 15 years, and I became good friends. His dedication to NIH and the support of biomedical research was unwavering; he was our great friend. I had the honor to attend his funeral in Bowling Green, Ky., on a very rainy day, appropriate for the sad occasion and heard eulogies by many, including President Clinton, who specifically mentioned Mr. Natcher's great interest in NIH. I am pleased that the alumni association was able to honor him while he was still in relatively good health. Sometime in September or early October we will dedicate the Natcher Bldg.

As all of you know, a distinguished alumnus, Dr. James Shannon died in May. His legacy at NIH remains strong. Many think NIH has changed tremendously since he retired as NIH director in 1968. It has, but most of the principles for which he stood are still rock solid. We are planning—along with the alumni association—to hold a memorial service for him in the Shannon Building in the next few months. We have been in touch with his son who lives in Rockville and will choose the final date very soon.

Dr. Ruth L. Kirschstein

Don Fredrickson has said that he would like to speak at the memorial.

I also would like to add my personal congratulations to Roy Vagelos. He greatly distinguished himself while at NIH, at Washington University in St. Louis, and through his work with Merck. Even after he left, Roy never forgot his NIH roots—he has given much back to NIH, including the wonderful Children's Inn, which is a visible and valued asset. Most recently, he has served NIH with great dedication as a member of the External Advisors who reviewed the NIH intramural program during the past year and presented us with a superb report. Its recommendations already are being implemented. That study, incidentally, came about as a result of the request of the last appropriations committee report prepared by Mr. Natcher. I will say more about this later.

Now let me talk a bit about the current NIH.

*(See **Kirschstein** p. 4)*

Kirschstein *(continued from p. 3)*

I think it is fair to say that we truly have an invigorated leadership.

Dr. Varmus has been with us officially now for eight months. He has excellent working relationships with Dr. Phil Lee, assistant secretary for health, and HHS Secretary Donna Shalala. These good relationships have meant that he has received a number of delegations of authority that are important to reinvigorating NIH. Among them is the authority to hire people into high level positions without awaiting PHS/HHS approvals, the first such delegation since the Senior Executive Service was established, and the only one in the department. He has made some important appointments:

Wendy Baldwin—deputy director for extramural research.

Michael Gottesman—acting deputy director for intramural research.

John Gallin—director of the Clinical Center.

Alan Leshner—director of the National Institute of Drug Abuse. The former ADAMHA institute joined NIH over a year ago.

William Paul—director of the Office of AIDS Research.

Anne Thomas—associate director for communications.

Dr. Varmus will also have an opportunity in the next several months to fill other important positions. Among them are: director of the National Institute of Neurological Disorders and Stroke; director of NIMH; and director of National Institute of Dental Research; director of the National Institute for Nursing Research; director of the National Institute of Arthritis, Musculoskeletal and Skin Diseases

Dr. Varmus, in another first, was given a seat on the National Science and Technology Council—a White House decision.

THE NIH BUDGET

The NIH budget request for 1995 now is in the mark-up phase. I hesitate to say anything too specific about House action—although details have already been published in newsletters—simply because this will likely not be the final 1995 budget. We do expect, however, that the NIH budget will end up somewhat less than the president's request, which was for $11.4 billion and provided a 4.7 percent increase over FY 1994. This is only the second time in my memory that NIH probably will receive a smaller appropriation than requested by the president.

Our lack of incremental growth reflects government-wide efforts to contain discretionary spending. Of special concern to us is the fact that not only are all the institutes experiencing generally low "success rates" on investigator-initiated grants, but also that some institutes (especially those newly brought into NIH—Drug Abuse, Alcohol, and Mental Health) are experiencing *very* low success rates.

Based on efforts of public interest coalitions, the Office of AIDS Research at NIH is now reconstituted in law to receive all appropriated funds for AIDS research at NIH, and to allocate these funds to NIH institutes, centers, and divisions in accordance with a consolidated plan. Prior to this new legislation, Congress allocated funds for AIDS directly to the ICDs.

REINVENTING GOVERNMENT EFFORTS

NIH *is* reinvigorated and is taking a constructive look at its important functions and activities. Some are entirely at our own volition; others were requested by Congress. In looking at *any* changes for the next five or six years, we need to keep in mind that NIH will have to take its share of government-wide reduction in employees mandated by the president. Our target would cut 2,250 employees by the end of 1999, a 14.9 percent reduction. We also have targets for GS-14 and higher positions. We believe we can manage these cuts through attrition. But it *will* require creative solutions to get the important work of NIH accomplished with fewer people.

Extramural

Extramurally, several experiments in progress aim to streamline the peer review system. These include:

- Triage review—in which applications that are viewed as "non-competitive" are weeded out of the review process early and receive only an abbreviated summary statement.
- "Just-in-time"—deferral of submission of certain "boilerplate" and specific budget detail until just before award planning.
- Electronic management of pre-award activities.

All of these and other extramural efforts, are "experimental" at this time. On July 14 we had a public meeting to which members of the extramural community were invited, to discuss these efforts before they are adopted more broadly.

Intramural

Many of you know that last year—leading up to the FY 1995 appropriations cycle—the Congress asked for an outside review of intramural research, with particular attention to the future of our aging Clinical Center. I began that effort prior to Dr. Varmus's arrival at NIH. The outside advisors—headed by Paul Marks and Gail Cassell—completed their work and recommendations are now being implemented by the institutes and scientific directors. Their

report (see related story on p. 1) recommends:

- Improve the process for review of senior scientists and scientific directors.
- Provide a greater "arms-length" relationship between institutes and their boards of scientific counselors in order to improve the quality of program review.
- Improve the tenure system through an NIH-wide tenure committee.
- Improve intramural training and encourage trainees to seek positions outside NIH following two to four years here. This would provide space and resources for recruitment of new trainees.
- Advertise tenure track positions more widely across the country. This recommendation is aimed, in part, at providing greater ethnic diversity.
- Streamline the procurement process and other administrative processes for intramural scientists and make the CRADAS—our agreements with private industry—more workable for both NIH scientists and industrial partners.
- Develop planning processes to determine what percentage of a given institute budget is devoted annually to its intramural program. This should not be an automatic decision. The percentage of the total budget of NIH devoted to intramural should not exceed the current rate of 11.3 percent.
- Plan for renewal of the Clinical Center facility at a more modest size than the current 450-bed facility. In fact, the FY 1994 budget includes money set aside for this planning process.

Diversity in the NIH Workforce

Dr. Varmus and I are working diligently on this issue, which has attracted the attention of Congress, the Administration, and the media to some extent. We believe that we have made important inroads, but have a long way to go. It is not possible to change overnight the NIH employment profile, and it is especially difficult to do so when we have hiring freezes in place and full time equivalency (FTE) cutbacks pending.

Clinical Research Crisis

Many of you know that owing to a series of unfortunate occurrences in clinical research—the misconduct involved in the University of Pittsburgh breast cancer studies and the deaths of five patients in our own fialuridine (FIAU) /hepatitis B study—clinical research is under intense scrutiny.

This is very much on our minds, because we recognize the importance of public trust to our continuance of clinical research. This fall a blue ribbon panel will look at several issues relating to clinical research: 1) What is appropriate monitoring of clinical trials (especially those that are large and multi-site trials)? 2) How should individuals who conduct clinical trials or are involved in clinical trials be trained? 3) Are grant applications for clinical research projects appropriately reviewed through the NIH peer review system?

So you can see that we have a full plate, yet there is much excitement in the scientific arena. We face many challenges, but there is great enthusiasm by all that despite these problems and issues, the purpose of NIH remains strong and the continued promise shines brightly.

At the NIH Alumni Association annual meeting on June 18, 1994, Dr. Earl R. Stadtman, chief, Laboratory of Biochemistry, NHLBI, (l) presents to Dr. P. Roy Vagelos the 1994 NIHAA Public Service Award, an etched desk plaque depicting the Shannon building. An accompanying framed citation states, "The 1994 Public Service Award is presented to Dr. P. Roy Vagelos by the National Institutes of Health Alumni Association: In recognition of his eminent career of public service as an accomplished research scientist, a distinguished academician and now as an internationally renowned business leader, the head of a major worldwide health products firm. Early in his career he served as a senior scientist at NIH for a decade, and as an alumnus has been actively concerned and generously supportive."

Research Festival *(continued from p.1)*

ics. Since 1986, he has also been a senior investigator for the Howard Hughes Medical Institute. From 1962 to 1965 he was a research associate in biochemical genetics at the National Heart Institute. After a year's stay at the Weizmann Institute in Rehovot, Israel, he returned to NIH, where he was a research medical officer, biosynthesis section, Laboratory of Biochemistry, NCI. In 1969, he became head, section on molecular genetics, Laboratory of Molecular Genetics, NICHD and from 1972 to 1980 was chief, Laboratory of Molecular Genetics, NICHD.

The symposium honoring Philip Leder and other participants (see sidebar) is of interest not only to NIH alumni, but also to present NIH scientists.

It is hoped that many NIHAA members will return to the Bethesda campus, attend the NICHD symposium, and stay to participate in the week of activities that will follow.

The 1994 NIH Research Festival will continue Monday afternoon, Sept. 19 with a poster session in the Research Festival tents in Parking Lot 10-D, southwest of Bldg. 10. This year's organizing committee is chaired by Dr. Richard Adamson, director of NCI's Division of Cancer Etiology. On Tuesday, Sept. 20, there will two symposia, both scheduled for the morning in Bldg. 10. In the afternoon there will be a gathering for the interest groups in the Festival tents. A variety of workshops featuring NIH scientists from NIH's diverse intramural program will be held the afternoon of Sept. 20. On Wednesday, Sept. 21 in the morning there also will be three symposia in Bldg. 10 and Bldg. 38A. There will be workshops the morning and afternoon of Sept. 21 located throughout the NIH campus. The final program and scheduling information with details will be

National Institute of Child Health and Human Development 1994 Distinguished Alumni Symposium

Developmental Biology and Contributions to Human Biomedical Research

Monday, Sept. 19, 1994 Masur Auditorium

8:45 a.m.
Dr. Arthur S. Levine, *NICHD scientific director*
Opening Remarks

Speakers

8:50 a.m.
Dr. William W. Chin
Brigham and Women's Hospital, Harvard Medical School
Molecular Mechanisms of Thyroid Hormone Action

9:20 a.m.
Dr. Gerald D. Fischbach
Harvard Medical School
Synapse Formation: A Role for Receptor Tyrosine Kinases

9:50 a.m.
Dr. Tasuku Honjo
Kyoto University Faculty of Medicine
RBP-Jk, A Transcriptional Regulator of Neurogenic Genes in Drosophila PNS

10:20 a.m.
Dr. Stuart H. Orkin
Children's Hospital, Boston, Harvard Medical School
Targeting Hematopoietic Development

10:50 a.m.
Dr. Shirley M. Tilghman
Princeton University, Howard Hughes Medical Institute
Parental Imprinting in the Mouse

11:20 a.m.
Dr. Philip Leder
Harvard Medical School, Howard Hughes Medical Institute
Limb Deformity: A Morphogenic Paradigm in the Mouse

11:50 a.m.
Presentation of Distinguished Alumnus Award to
Dr. Philip Leder by Dr. Arthur S. Levine

available late in August (see sidebar for the general scheduling).

Thursday, Sept. 22, and Friday, Sept. 23 have been reserved for the Technical Sales Association scientific equipment show in the Research Festival tents. There will be over 300 exhibitors; it is one of the largest shows on the east coast.

The Research Festival was started 9 years ago by Dr. Abner Notkins, former director of intramural research, NIDR. Efforts by Notkins, subsequent committee chairpersons, the addition of the Alumni Symposium first presented in 1990, and the NIH Special Projects Office headed by Thomas Flavin, have made the event a great success.

The booklet detailing the final scheduling of workshops and posters will be available at the end of August. For more information call the NIHAA office at (301) 530-0567 or the NIH Visitor Information Center at (301) 496-1776.

The NIH Distinguished Alumni Award is a replica of the statue "Healing Waters" by Azriel Awret, which is located near the escalator on the first floor of Bldg. 10.

Research Festival '94 General Schedule of Events

MONDAY, SEPT. 19

8:45 a.m.-12 noon	NICHD Distinguished Alumni Symposium: Developmental Biology and Contributions of Basic Science to Human Biomedical Research Bldg. 10, Masur Auditorium
1:00- 4:00 p.m	Poster Session Posters on display in Research Festival tent, parking lot 10-D, southwest of Bldg. 10. See poster listings for titles and locations

TUESDAY, SEPT. 20

8:30-11:00 a.m.	Symposium: HIV Pathogenesis and Therapy Bldg. 10, Masur Auditorium
8:30-11:00 a.m.	Symposium: Cell Cycling and Apoptosis Bldg. 10, Lipsett Amphitheater
P.M.	Tent Picnic for Interest Groups Workshops

WEDNESDAY, SEPT. 21

8:30-11:00 a.m.	Symposium: DNA Repair Lister Hill Auditorium, Bldg. 38A
8:30-11:00 a.m.	Symposium: Imaging Techniques Masur Auditorium, Bldg. 10
8:30-11:00 a.m.	Symposium: Genetic Predisposition to Diseases Masur Auditorium, Bldg. 10
A.M.	Workshops
P.M.	Workshops

THURSDAY, SEPT. 22 and **FRIDAY, SEPT. 23**

9:30 a.m.-4:00 p.m.	Exhibits: Technical Sales Association (TSA) Equipment Show

Research Festival tents in Parking Lot 10-D, southwest of Bldg. 10

Programs with complete listing of symposia, posters and workshop titles and locations will be available at the Visitor Information Center in Bldg. 10 and in 31A. Shuttle bus service will be available on regular basis throughout the NIH reservation during the festival. Parking spaces in the 41-B lot will be available, but limited in number. Registration is not required for any of the events. For more information call the NIH Visitor Information Center at (301) 496-1776.

News From and About NIHAA Members, and Foreign Chapters

Dr. Robert C. Bast, Jr., who was in the Biology Branch, NCI, from 1972 to 1975, left his position as director of the Duke Comprehensive Cancer Center to become head of M.D. Anderson's Division of Medicine on July 1. The division conducts a wide range of clinical trials and is responsible for nearly half of M.D. Anderson's 500 inpatient beds. The division's outpatient clinics see more than 1,000 patients a day. Bast will continue his research on the early detection of ovarian cancer.

Dr. Suzanne K. Beckner, a senior staff fellow at NIADDK from 1980 to 1985, has been appointed vice president for development by Alpha 1 Biomedicals, Inc., Bethesda, Md. She will manage new product development and support preclinical and clinical trials. Alpha 1 develops pharmaceutical products for treating cancer, immune disorders, and chronic viral diseases.

Dr. J. Claude Bennett, who was a research associate in molecular biology at NIH from 1962 to 1963, has been named president of the University of Alabama at Birmingham. He is continuing as Spencer professor of medical science. Recently he received the 1994 Robert H. Williams Distinguished Chair of Medicine Award from the Association of Professors of Medicine.

Dr. Paul A. Bunn, Jr., a section head in NCI's Division of Cancer Treatment from 1973 to 1984, is now director at the University of Colorado Cancer Center in Denver. He recently presided as scientific secretariat at the 7th World Conference on Lung Cancer held in Colorado Springs. This conference was organized by the University of Colorado Cancer Center and the International Association for the Study of Lung Cancer (IASLC). Bunn is the president-elect of IASLC.

Virginia Schroeder Burnham, who has been a consultant and member of advisory councils at NIH, is now a writer and consultant living in Greenwich, Conn. She has written two books: *The Two-Edged Sword*, and *The Lake with Two Dams*, in collaboration with Dr. William H. Hampton. Burnham's extensive volunteer activities culminated in her being knighted a Dame of Malta in 1985.

Dr. C. Jelleff Carr, who was chief, pharmacology unit, Psychopharmacology Service Center, NIMH, from 1957 to 1963, was recently named the recipient of the International Achievement Award of the International Society of Regulatory Toxicology and Pharmacology. He is the society's secretary and was founding managing editor in 1980 of its official journal, *Regulatory Toxicology and Pharmacology*.

Dr. Paul Carbone, at NCI from 1960 to 1976 in the Division of Cancer Treatment, Medicine Branch, now directs the University of Wisconsin Comprehensive Cancer Center. At the annual session of the American College of Physicians this past spring, he was named a master for not only his many contributions to ACP but also his teaching of clinical medicine. A former ACP governor, he has served on the college's scientific program subcommittee, organized and arranged the "State of the Art" sessions, and lectured at the annual session.

Dr. Thomas C. Chalmers, director of the Clinical Center from 1970 to 1973, is a medical research consultant and also associate director of the Harvard School of Public Health's Technology Assessment Group. Recently he was advanced from the rank of fellow to master in the American College of Physicians for his accomplishments in the field of medical meta-analysis and his work to get research advances into medical practice faster.

Dr. Rita Colwell, a member of a microbiology training committee at NIGMS from 1970 until 1973 as well as other advisory councils of NIH, is president of the Maryland Biotechnology Institute at the University of Maryland. This spring, she and other Maryland officials inaugurated the construction in Baltimore of a new biomedical research center, which will house under one roof academic and industry researchers. Research at the center will focus on AIDS, sexually transmitted diseases, Alzheimer's disease, DNA, cancer and aging, Colwell said at the kickoff ceremony.

Dr. Michael P. Corder, a clinical associate at NIH, is now director of utilization review/quality assurance and chief of staff at the Bakersfield Family Medical Center in Bakersfield, Calif. He is a fellow of the American College of Physicians and a diplomate of the American Board of Medical Management.

Dr. Guy de Thé, research director of France's National Center for Scientific Research and chief of the epidemiology of oncogenic viruses Unit at the Pasteur Institute, last year celebrated 30 years of fruitful scientific collaboration with NIH. As a Fogarty-scholar-in-residence in 1993, de Thé worked, wrote and prepared for an international conference on retrovirology. He says, "I'm deeply grateful to NIH. For 30 years I have had such good relationships with so many people here. I feel that I'm part of the family."

Sol Eskenazi, whose NIH career was primarily with the Division of Research Grants from 1962 to 1979, writes that "since NIH retirement, I am a full time self-employed consultant in information systems involving health related matters." He adds that he received his pilot's license in 1990 and flies out of Montgomery Airpark in Gaithersburg. Almost completely retired, he spends winters in Florida and the rest of the year in Silver Spring.

Dr. Frederick Goodwin, director of NIMH since 1992, left that post in April to become a professor of psychiatry and director of the Center on Neuroscience and Psychiatry, and to establish a Center on Science, Medicine, and Human Values at George Washington University. On May 27, 1994, he presented the 21st Mathilde Solowey Lecture in the Neurosciences on "Neuroscientists and Psychiatrists: What Can We Teach Each Other?"

Dr. Jane Henney, who was deputy director of NCI from 1980 to 1985, most recently has been deputy director for operations at the Food and Drug Administration. In July 1994 she became the first vice president for health sciences at the University of New Mexico, Albuquerque. She will lead a newly organized structure that includes the school

of medicine, the colleges of nursing and pharmacy, and UNM's patient care.

Dr. Hussein M. Khaled, on a short visit to our office, reported that the NIHEA, the NIHAA chapter in Egypt, has met again and is proceeding with plans for a fund-raiser and a newsletter.

The logo of NIHEA (National Institutes of Health Egyptian Alumni)

Dr. Edwin H. Kolodny, a special fellow, Laboratory of Neurochemistry, NINDS, from 1967 to 1970, is Marden professor of neurology and chairman of the department of neurology at New York University School of Medicine. In March 1993, he received the school's Solomon A. Berson Medical Alumni Achievement Award in Clinical Science.

Dr. Marc E. Lippman, who was at NCI as head of the medical breast cancer section, Medicine Branch, is now director of the Vincent T. Lombardi Cancer Research Center, Georgetown University, Washington, D.C. He received from the American Association for Cancer Research the 18th Richard and Hinda Rosenthal Foundation Award at its annual meeting in San Francisco. Lippman was cited for his contributions to the understanding of hormone action, particularly in breast cancer.

Dr. Ti Li Loo, at NCI from 1955 to 1965 as a pharmacologist, and formerly Ashbel Smith professor of pharmacology at the University of Texas M.D. Anderson Cancer Center, has returned to NCI's Division of Cancer Treatment as a special volunteer. He is also research professor of pharmacology at George Washington University Medical Center.

Gerald F. Meyer, who was at NCI as an executive officer in the Division of Cancer Etiology, has been for the past 8 years the deputy director of the Food and Drug Administration's Center for Drug Evaluation and Research. Earlier in the year the Pharmaceutical Manufacturers Association recognized him for his 1993 regulatory management contributions, which led to an average 3-month reduction in new drug review and approval time at FDA. Recently he has been named by Digital Equipment Corp., Maynard, Mass., director of development and regulatory affairs for its pharmaceutical industry business group.

Dr. Donald Morton, who was at NCI from 1960 to 1971, has received from the John Wayne Cancer Institute in Santa Monica its special Service Award for his work in cancer research. Morton is the institute's founding medical director and president. He founded the organization in 1981 at UCLA and moved it to St. John's Hospital and Medical Center in 1991.

*(See **Members** p. 10)*

Members *(continued from p. 9)*

Dr. Daniel Nixon, associate director in the Cancer Prevention Research Program at NCI from 1987 to 1989, has moved from his position as vice president for detection and treatment, American Cancer Society, to the Hollings Cancer Center, Medical University of South Carolina. He is associate center director for prevention and control, and professor in the department of experimental oncology.

Dr. Margaret Pittman, who spent her entire career in biologics research at NIH with the Bureau of Biologics (now Center for Biologics Evaluation and Research, FDA) became the first woman to be named chief of an NIH laboratory in 1958. Recently she has been incapacitated by a stroke and a broken hip and is now in a nursing home. She is being honored with an NIH lecture in her name. The first Margaret Pittman Lecture will take place in 1995.

William B. Page, who was in the Division of Research Services, 1958 to 1963, and in the Division of Research Facilities and Resources from 1963 to 1968, and the chief, Office of Architecture and Engineering, writes that since 1967 he "lives on Shenandoah Mountain inside the George Washington National Forest ... on the Virginia\West Virginia boundary. For the last 5 years I have served on the Comprehensive Planning Commission for Pendleton County, West Virginia."

Dr. James Reilly, a clinical associate in NCI's Surgery Branch from 1974 to 1976, is now with the Kings County Hospital Center in Brooklyn as director of surgery, and vice-chairman, department of surgery, at SUNY—Health Sciences Center at Brooklyn. In 1992, he was awarded a master of public management (health policy) from Carnegie-Mellon University.

Dr. Mark L. Rosenblum, an NCI staff associate from 1970 to 1972, is chair of the department of neurosurgery and director of the Midwest Neuro-Oncology Center at the Henry Ford Hospital in Detroit. He also is acting chair of the Henry Ford Health System's Cancer Program and professor of neurosurgery at Case Western Reserve University School of Medicine. In May 1994, he was honored with a certificate of achievement award from the Alumni Association of the New York Medical College. The Preuss Foundation has selected him to host an international seminar on brain tumor invasion for selected invitees in Detroit in fall 1994. Rosenblum's research focuses on the biological mechanisms of brain tumor cell invasion and the development of anti-invasive treatments.

Dr. Jeff M. Sands, a medical and senior staff fellow at NHLBI from 1983 to 1988, writes that "after leaving NIH I joined the faculty at Emory University in Atlanta. I was promoted to associate professor of medicine in 1993. I also serve as director of the renal fellowship training program. Outside of work, my wife, son and I root for the Braves and we are looking forward to the Olympics. I was recently elected to membership in the American Society for Clinical Investigation."

Dr. Howard K. Schachman, who has served as an NIH advisor, and was a Fogarty International Center scholar-in-residence at various times between 1978 and 1982, is now professor emeritus in the department of molecular and cell biology at the University of California, Berkeley. He is the 1994 recipient of the Public Service Award from the Federation of American Societies for Experimental Biology, which honored his many years of leadership on the issues of scientific integrity and indirect costs. In February, he was appointed by Dr. Harold Varmus to be an ombudsman for the NIH extramural community. His job will be to visit academic and other research institutions to ask and answer questions, listen to problems and report back to Varmus.

Randy Schools, the general manager of the R&W at NIH and a member of the NIHAA board of directors, recently was honored by Channel 9 when he was one of nine recipients of "The One and Only 9 WUSA-TV Awards for Community Service." He was not only profiled in a special video production about the honorees, but also received a cash prize, half of which will be donated to charity. In addition, Schools received the Jefferson Award from the American Institute for Public Service.

Dr. Euan Scrimgeour, who was a visiting scientist in the Laboratory of Central Nervous System Studies, NINDS, from April 1984 to April 1985, reports that he is now in the department of medicine, National Guard King Khalid Hospital, in Jeddah, Kingdom of Saudi Arabia. He has offered to act

as coordinator and secretary if NIHAA is able to start a Saudi Arabian-Middle East chapter.

Dr. Maxine Singer, from 1956 to 1988 affiliated with both NIAMD and NCI, where she is scientist emeritus, is

now president of the Carnegie Institution of Washington. She recently received two honorary degrees, the first from Yale University and the second from Harvard University. The Harvard degree describes her as "a vital figure in the science of molecular biology and in the art of scientific administration," who established guidelines to help manage and regulate research involving recombinant DNA, and conducted research on repetitive DNA elements.

Dr. Kendall A. Smith, who was a staff associate at NCI, has moved from the Dartmouth Medical School department of medicine to become chief, Division of Allergy-immunology in the department of medicine at New York Hospital-Cornell Medical Center.

Dr. Jesse L. Steinfeld, deputy director at NCI, 1968-1969, and U.S. surgeon general, 1969-1973, received at the 7th World Conference on Lung Cancer, held June 26-July 1, 1994, in Colorado Springs, the first Joseph Cullen Award for the Prevention of Lung Cancer. Steinfeld was among the first in the scientific community to recognize the health hazards of passive exposure tobacco smoke, and has continued to work tirelessly on tobacco control.

Dr. Samuel O. Thier, clinical associate, NIAMD, 1962-1964, who was president of the Institute of Medicine of the National Academy of Sciences for 6 years, has left as president of Brandeis University to become president of Massachusetts General Hospital.

Dr. John Tuohy, who was a senior investigator and chief of the solid tumor chemotherapy service for NCI at the Clinical Center from 1953 to 1956, is in Saudi Arabia. He writes, "I am now directing a health maintenance and continuity of care program for senior officers in the Royal Saudi Air Force at the King Abdul Aziz Airbase in Dhahran, while maintaining my interest and participation in cancer chemotherapy ... For the past 10 years I have been associate clinical professor of medicine, King Faisal School of Medicine and Medical Sciences, Dammam, Saudi Arabia. In 1981, I received the U.S. Public Health Service Outstanding Service Medal after recalled to duty to serve as chief medical officer at Fort Indiantown Gap, Pa., with the Cuban Task Force. After the Gulf War, the U.S. Department of Defense presented me the Commanders' Award and Medal for Civilian Service during the three phases of that conflict. I received certificates of appreciation from the government of Saudi Arabia and Hungary for my services to their medical contingents."

Dr. Robert Whitney, who was at the National Center for Research Resources from 1971 to 1992, most recently as director, and was appointed deputy surgeon general in 1992, has retired from the Public Health Service. He is establishing a nonprofit founda-

tion to further develop and utilize the techniques learned from the studies of peregrine falcons for use in worldwide detection of biocides and environmental assessments.

Dr. Gary Williams, who was at NCI in the Etiology Division, 1969-1971, is now director of medical sciences at the American Health Foundation in Valhalla, N.Y. He writes of two events at the foundation: In November they will celebrate their 25th Anniversary with a program entitled "Toward Optimal Health: Examining Goals for Nutrition and the Environment." The foundation will also sponsor a course on the safety assessment of pharmaceuticals, Oct. 3-7. For more information about the course and the anniversary celebration, contact him at the American Health Foundation, 1 Dana Road, Valhalla, N.Y. 10597, (914) 789-7138 or fax (914) 592-3522.

President's Letter

The NIHAA's annual meeting was held on June 18 at the Lasker Center on campus to a standing-room-only crowd. Highlights of the occasion were the presentation of our Public Service Award and an update on NIH affairs by the deputy director.

The Public Service Award was conferred on Dr. P. Roy Vagelos by his first mentor at NIH, Dr. Earl R. Stadtman. Earl reviewed the honoree's career: his scientific contributions at the NIH as he progressed from clinical associate to acting laboratory chief; his scientific and educational achievements as head of the department of biochemistry at Washington University, where he succeeded another NIH alumnus, Arthur Kornberg, and the Coris, Carl and Gerti; his stellar performance as vice president for research at Merck; and, finally, his outstanding leadership as president and CEO of that pharmaceutical industry giant.

Earl noted that Roy had always responded generously to calls from NIH for guidance, having served on innumerable advisory panels, most recently the external advisory committee of the advisory committee to the NIH director. Examples cited of his commitment to public service were generous gifts from Merck, to the Children's Inn at NIH and to the nations of Africa. The latter by providing free of charge, a potent Merck-discovered anti-filarial agent for the treatment of onchocerciasis (river blindness), estimated to affect 40 million people in equatorial Africa and to blind 5 percent of them.

In acknowledging the award, Dr. Vagelos emphasized the importance of the continuum of innovation from basic science to commercial production and marketing for advancing the health of mankind and cited his concern that sight not be lost of these realities as the nation moves toward reforming its health care system.

Dr. Ruth L. Kirschstein provided a terse but comprehensive review of development at the NIH over the last year or so, during part of which she served as acting director (see story on p. 3). The impact on NIH of the pan-government actions, emerging out of the vice president's National Performance Review, to "streamline the bureaucracy" by reducing employment by an average of 12 percent and by making disproportionately high cuts in the number of high-level employees—predominantly senior scientists and scientific administrators in the case of NIH—would appear, on first hearing, to presage severe damage to perhaps the finest organization ever created by government and to signal major troubles for scientists throughout the nation, whether intramural or extramural. The report of the external advisory committee, mentioned earlier, also found this situation alarming. The realities are complex and the NIHAA is in the process of trying to get a comprehensive grasp of the details. A more complete appraisal will appear in the next issue of *Update*.

During the business meeting that followed, the chairs of the association's standing committees synopsized the activities in which their groups were engaged and provoked much lively discussion and many excellent suggestions. Adjournment was followed by a splendid reception, with renewal of "old acquaintance" and recital of old "war stories." Local alumni continue to demonstrate keen interest in, affection for, and loyalty to, NIH.

Attention

NIHAA wants to hear from its members. Please type or print your note for a future issue and mail it to *Update* at 9101 Old Georgetown Rd., Bethesda, Md. 20814

Name

Home Phone

Home address

News, include dates/position at NIH and photo if possible

Suggestions for newsletter

Suggestions for NIHAA

The Founding of the NIHAA Israeli Chapter

By Drs. Michael Sela and Sara Fuchs

On Nov. 14, 1993, the Israeli chapter of the NIH Alumni Association was inaugurated in Rehovot at the Weizmann Institute of Science. It was a founding meeting with the participation of close to 200 alumni. Dr. Ira Pastan, chief of the Laboratory of Molecular Biology, NCI, came especially to bring greetings from Bethesda and give the first Christian B. Anfinsen Lecture, on the topic "Recombinant Immunotoxins: New Agents for Cancer Therapy." It was particularly meaningful that Anfinsen himself was present, as his laboratory has been a great attraction to many Israelis. We both (Michael Sela in 1956-57 and 1960-61, and Sara Fuchs in 1965-68) were among the first to join his lab, and among the first Israelis at NIH. The information that reached us from NIHAA on the occasion of the inauguration of the Israeli chapter is that 642 Israelis have been at NIH over the years, and 40 of them are still there.

The dry numbers cannot express adequately our feelings about the times we spent at NIH. To us the years at NIH (and we continued our visits there, Michael Sela in 1973-74 and Sara Fuchs in 1985-86 and 1992-93) were among the most happy and certainly the most productive and meaningful of our careers, and we know that the same has been true for many of our Israeli colleagues.

The NIH is a research institution unparalleled in its scope, its efficiency, its spirit and its success by any other science complex anywhere in the world. We are sure that the Israelis are not unique in having a deep feeling of gratitude and of loyalty to the premiere institution to which they owe so much in terms of their scientific education and research. The friendships built up during the years at NIH are again part of our lives, both with those who stayed permanently at the various institutes in Bethesda, and those who moved to so many other places in the United States, as well as to other parts of the world, thus making NIH responsible for a most important and intricate network of scientists.

The contribution of NIH to the improvement of human health has been enormous, and in some areas even unique. There is no doubt in our minds that this has been the result of a free quest for a better understanding of life and nature, and that the major breakthrough came as a result of basic rather than mission-oriented research. This most important take-home lesson has been well learned by us, the Israeli scientists and physicians who have had the privilege of prolonged visits at NIH.

We are very happy that this has not been one-way traffic as quite a number of NIH scientists have spent lengthy periods of research at the Weizmann Institute of Science in Rehovot, the Hebrew University in Jerusalem and other institutions of higher learning in Israel. Moreover tens, and maybe over the years it would be more correct to say hundreds, of NIH scientists have visited Israel for brief periods of time, participating in colloquia, symposia, workshops, scientific advisory committees, study weeks, schools and congresses. Quite a few of them have become more directly involved in helping the scientific development of our institutions. We shall mention by name only two: Christian Anfinsen who has been a scientific member of the board of governors of the Weizmann Institute, and has chaired for many years its scientific advisory and academic committee, and Maxine Singer, who is chairing this committee at present.

We feel it is very appropriate that the inauguration of the Israeli chapter of the NIH Alumni Association has been accompanied by the first lecture in the Anfinsen's lectureship, which has been established to promote continuation of the long established ties between NIH and scientists and physicians at virtually all of the major research institutes in Israel.

We are most thankful to the committee of Chris Anfinsen's former students (headed by Alan Schechter of NIDDK) who, with the help of the Foundation for Advanced Education in the Sciences and the NIH Alumni Association, have been most instrumental in creating this lectureship. The committee of Anfinsen's former students desired to establish a mechanism to allow a lasting recognition of Chris's unique scientific and personal heritage. It was decided to endow a lectureship in Israel to emphasize the scientific and personal relationships between Anfinsen's laboratory in particular, the NIH in general, and Israeli biomedical science.

The 1993 lecture delivered by Dr. Ira Pastan represents the first of what we hope will be a long, continuing series to which we will invite distinguished scientists from NIH or from the large number of NIH alumni. Pastan has been a mentor to many young scientists, including many Israeli scientists who have been attracted by his excellent science and very active laboratory.

On the occasion of the inauguration of the Israeli chapter, its members wish the parent NIH Alumni Association successful and constructive development for the sake of its members, for the sake of the NIH community, and for the sake of the progress of life sciences worldwide.

Intramural Research *(cont. from p. 1)*

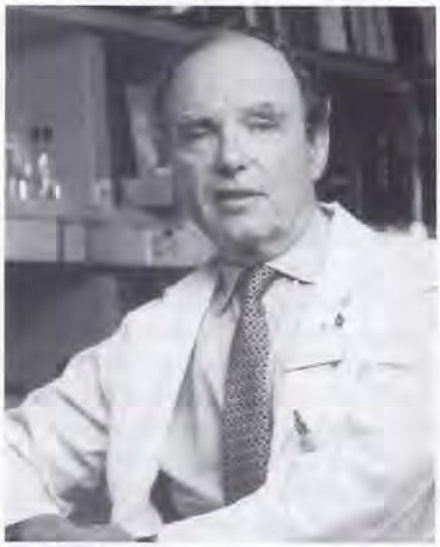
panel including NIDDK grantee Dr. Elizabeth Neufeld of UCLA's medical school, Dr. P. Roy Vagelos of Merck and Co., Inc., and NCI scientist emeritus Dr. Maxine Singer of the Carnegie Institution. Marks, Cassell and Varmus, Kirschstein, and Dr. Michael Gottesman, acting NIH deputy director for intramural research, were on hand at a May 4 Bldg. 1 media briefing to announce release of the EAC's final draft report. The full advisory committee to the director (ACD) discussed the report at its June 2 meeting here.

The IRP "consumes roughly 11 percent of our 11-billion-dollar budget," said Varmus, in introductory remarks at the briefing. "This is one of the government's proudest possessions. It is a scientific endeavor carried out by government scientists that has a remarkable track record, has trained 50,000 biomedical scientists over the course of its history and has made a number of famous achievements in biomedical science."

In response to a request by the House Labor and Health and Human Services appropriations subcommittee—communicated via its fiscal year 1994 report—Varmus was directed "to review carefully the role, size, and cost" of the IRP.

Amid tightening constraints on federal funding of biomedical research and stemming from concern expressed by Congress about the overall mission and management of NIH, the IRP review considered tough questions on the program's quality, NIH's allocation of resources to the IRP compared with the Extramural Research Program, and the current condition and projected lifespan of the agency's physical facilities—especially the Clinical Center. Congressional concern on these three issues had come to the forefront over the last 2 years, according to the executive summary of EAC's report.

Critical evaluation is as important for the intramural program as it is for the extramural program, Varmus said, citing the need for government scientists and grantees to be held to comparable standards of peer review. Varmus also noted "that there has been, at least in some quarters, the perception that perhaps there's been some slippage in quality in the intramural program, some isolation from the mainstream. These views have been articulated in several places, including *Science* magazine."



Dr. Paul Marks

Reviews by outside groups is not new, Varmus pointed out, referring to external committees formed as early as the 1970's to examine the performance of the IRP. Marks agreed, adding that he and several other EAC members had also served on some of the earlier committees. The EAC report also mentioned prior reviews: "At least three previous advisory committees have made recommendations for improving the IRP, some of which have been implemented but many of which have been ignored. This may be attributed in part to systemic problems that transcend NIH and require major administrative or legislative remedies and in part to resistance to change within a large institution."

However, Marks said, the EAC is more hopeful that current suggestions will be implemented.

"Some of the recommendations we are making are certainly not new," he commented, "but we feel they are no less important. We have a certain sense of optimism that these recommendations, some of which have been on the books for years, may be implemented this time around. This optimism is due to the new leadership of NIH in the person of Harold Varmus and his staff, and to the support indicated to us from [HHS] Secretary Shalala and Assistant Secretary Phil Lee." Copies of the EAC report were distributed to Shalala, Lee, some congressional staff, the NIH scientific directors and ICD directors several weeks before the briefing.

Ensuring strict quality control was by far the major consideration of the EAC, said Marks.

The first two recommendations addressed enhancing the review process for IRP senior scientists and scientific directors. A standing advisory committee to the deputy director for intramural research should be appointed, chaired by the DDIR and composed mainly of the chairs of ICD external boards of scientific counselors. This committee would "provide ongoing review of the processes of quality control across NIH," said the EAC report. In addition, the appointment process for these counselors should be changed "to assure expert, arms-length membership"; the review process itself should be more explicit and the criteria to evaluate scientific directors should be more rigorous.

"One of the criticisms we've had in the past is that sometimes the board of scientific counselors may be too closely wedded to the very groups they're being asked to review," said Varmus, noting that this recommendation was already in early stages of implementation. "While the advisory function has

worked well in many cases, there is the general belief that it may not be as stringent as the extramural review process in which there is perhaps less fraternalism."

Of the 11 major recommendations the EAC made, four involve the recruitment, retention and tenure of researchers. Recommendation 3 seeks to strengthen the tenure process by assembling a 12- to 16-member NIH-wide tenure committee to review all potential appointments to tenure and tenure-track positions. Currently scientific directors in individual ICDs perform this function. Adoption of this recommendation would provide more uniformity across ICDs. In addition, not only IRP scientists would be considered for these tenured posts; ERP researchers also would be actively recruited.

Recommendation 4 endorses strict adherence to 2- and 4-year training positions by trainees. The EAC found that in order to keep a fresh IRP scientist pool, trainees should be encouraged to seek positions outside NIH at the conclusion of their training terms. Marks acknowledged that the IRP "is probably the largest training program of biomedical scientists in the world."

Recommendation 5 pertains to the need to provide ethnic diversity in intramural training programs. The EAC noted that IRP efforts in this area would do well to link better with such successful extramural programs as Minority Access to Research Careers and Minority Biomedical Research Support. Aggressive mentoring was also recommended as a method to attract scientists from underrepresented groups.

"We would all agree that the best way to attract the very best trainees is to assure they have the best mentors," said Cassell. According to the data the EAC used, 5 percent of IRP trainees are minorities and 36 percent are women. "But this is not necessarily enough," said Marks.

In recommendation 11, the EAC suggested that current classification of the IRP as an HHS administrative expense be discontinued. By considering intramural scientists this way, EAC maintains, irrational budgetary procedures that compromise quality result. In other words, cost-saving manuevers such as an across-the-board elimination of GS-13s, which may be effective in other government agencies, would only wreak havoc at NIH, a federal institution in which most top scientists are already compensated beneath their private-industry counterparts.

Dr. Gail Cassell

Recommendation 6 affirms that the IRP should represent no more than the current rate of 11.3 percent of the total NIH budget. A yearly planning process, the guidelines for which should be outlined in writing, was also recommended for each ICD to determine the allocation of resources to both the IRP and ERP.

In recommendation 7, the EAC added its approval to a measure mentioned by Varmus early in his young tenure at NIH: that NIH serve as a model for the president's "reinventing government" proposal, which intends to cut red tape and streamline some federal administrative procedures including procurement and staff travel.

Recommendation 8 addresses the IRP's partnerships with industry. EAC recommended that the processes for implementing and monitoring cooperative research and development agreements be more broadly and clearly communicated.

The final two recommendations involve NIH's Bethesda campus and physical facilities, specifically the Clinical Center. In short, the CC should gradually reduce from 450 to 250 its inpatient-bed capacity. "There is a need for renewal of the Clinical Center," the recommendation begins. In line with this overhaul should be an evaluation of current IRP projects to elucidate and phase out weaker ones, the EAC found. Funds from this weeding process could then be used to revive the CC. Under no circumstances should ERP funds be diverted to CC renovation, the report noted. If sufficient funds cannot be reallocated from downsizing efforts, then Congress should allocate the balance of necessary resources.

Recommendation 10 is related: As a result of the suggested purging of weak programs, more space and resources should become available to bring off-campus IRP projects back to the Bethesda fold. Marks estimated and Gottesman confirmed that roughly half of IRP clinical facilities and research laboratories exist off campus.

The next step for the report—beyond presentation at the ACD meeting—is endorsement by HHS officials, namely Shalala and Lee. Varmus has already voiced his support for the recommendations and, in fact, has begun implementation of those within his authority. Official congressional response is also pending, but, the EAC cochairs, Varmus and Gottesman indicated that they anticipate favorable feedback.

Shannon *(continued from p. 1)*

Shannon had few heroes but John Wycoff's picture was on his desk as long as I knew him. After residency, he decided that he needed to learn more science. His first choice was biochemistry, but times were tough and the chairman of biochemistry, R. Keith Cannon, could pay two conventional graduate students for the money to pay one physician. Homer Smith was better disposed or had more resources, so Shannon received his Ph.D. in physiology at NYU in 1935. Soon, he and a medical school classmate, Alice M. Waterhouse were married and they were blessed with three children, one of whom died in childhood. Jim and Alice were a marvelous pair, with Alice the warm, down-to-earth and captivating hostess that made visiting the Shannons such a pleasure for the people who worked for and with her husband.

Shannon had a spectacular career. His bibliography includes about 100 scientific and technical publications, along with scores of contributions to the literature on the administration of research programs, on public policy with respect to science and to scientific and medical education and on relationships between government and academic institutions. He served on the faculty of the NYU School of Medicine in the departments of medicine and physiology from 1932 to 1946 and made his mark on science early, with pioneering discoveries in animal as well as human renal physiology and in clinical nephrology. In 1941, he was appointed the first director of the NYU Research Service at the newly opened Goldwater Memorial Hospital, a 1,600-bed institution dedicated to the treatment of chronic diseases. Shortly thereafter, his 100-bed research service with its supporting laboratories became the center for the clinical evaluation of new antimalarial drugs for which U.S. forces in the South Pacific were in urgent need; early in the war, Japanese conquest of the world's major quinine producing areas had cut off the world's supply of that drug. During the war years,

> *Any appraisal of James A. Shannon by his students, immediate employees, collaborators, colleagues or friends should probably bear a disclaimer. To virtually all of them, Jim Shannon in his prime, "warts and all," was a heroic figure. They almost universally rated their associations with him as the most enriching and memorable of their careers. I had the great good fortune to work directly for him for 6 years, to work within his immediate ambit for an additional 8, to have spent 8 more under him but at a remove and to have conducted extensive oral history interviews with him after his retirement. My biases are undisguised.*
>
> *—Thomas J. Kennedy, Jr.*

Shannon served as a member of the board for coordination of malarial studies of the Office of Scientific Research and Development and as chairman of the board's panel on clinical testing of antimalarials.

When the malaria project ended, the arrangements Shannon had struck earlier with NYU to chair its department of pharmacology collapsed. To the horror of his closest friends in academe and against their advice, he accepted the directorship of the Squibb Institute for Medical Research where he remained from 1946 to 1949 and where he also eventually served as a corporate vice president. While at Squibb, he undertook an extensive reorientation of the institute's program and, inter alia, stimulated the parent company, E.R. Squibb, to produce and market the first of the aminoglycoside antibiotics, streptomycin.

In 1949, to the further horror of his academic peers, he was persuaded by Gene Dyer and Norm Topping, the then director and associate director, respectively, of the NIH, to join the National Institutes of Health as the associate director (in charge of research) of the newly created National Heart Institute, where he in turn recruited the charter staff for that institute's intramural program. Shannon's first step was to identify about a dozen major research themes whose pursuit he felt appropriate for the fledgling intramural heart institute—cell biology, chemical pharmacology, C-V physiology, kidney and electrolyte metabolism, natural products, technical development, cardiovascular surgery, to name a few. He then proceeded to solicit from his vast acquaintance with national and international leaders in these fields the names of the most promising emerging scientists. He carefully cross-checked each potential candidate, compiled a rank-ordered short list, packed his bags and went recruiting, mostly for laboratory/branch chief and clinical/research associates but with an ever-open eye for other talent. An indication of his sharp eye for as yet unrecognized talent is that two of his early recruits—Chris Anfinsen and Julie Axelrod—later won Nobel Prizes and two others—Don Frederickson and Jim Wyngaarden—later punctuated distinguished careers by serving as directors of NIH. In very short order, he had assembled, provided

research resources to and had at work a group that would soon come to be recognized as one of the most distinguished in the world.

Three years later, in 1952, he assumed campus-wide responsibility for the intramural research activities of all of the institutes at NIH. The intramural research activities of long established institutes were subjected to searching scrutiny, a fair amount of blood was spilled and the highest standards of excellence became the imperative for intramural NIH across the board. Under his guidance, the opening of the 500-bed Clinical Center—an event that had engendered no small amount of apprehension within the staff because it brought sick human beings to the campus for the first time ever came off with only minor hitches.

In 1955, he was appointed NIH director, the position from which he retired from government service in 1968. Thereafter, he served as an advisor to the president of the National Academy of Sciences and in 1970 became professor of biomedical sciences at Rockefeller University, from whence he retired in 1975.

In every capacity in which he operated, Shannon's performance was judged superlative and he garnered a cornucopia of recognitions: election to every important scientific society in his field, including the National Academy of Sciences; honors galore—among the more significant, the Public Welfare Medal of the National Academy of Sciences, the Rockefeller Public Service Award, the Presidential Distinguished Federal Civilian Service Award, the National Medal of Science, the Abraham Flexner Award and the Alan Gregg Lectureship of the Association of American Medical Colleges, the Kober Medal of the Association of American Physicians, Hadassah's Myrtle Wreath—; and a score of honorary degrees. He had the good fortune to enjoy, during his lifetime, the full panoply of accolades that his achievements warranted. But Shannon's most significant honor and most enduring memorial is the institution, the modern NIH, that he molded and formed during his 13 years as its director. Those who did not witness or participate in the events of those memorable years may find it difficult to comprehend the transformation he wrought when he took the reins at NIH in 1955, 39 years ago. The only living scientists who have experienced the transition from the pre- to the post-Shannon era are all septuagenarians. Scientists approaching retirement today began their research careers when the Shannon-induced changes had been in progress for almost a decade. The present director of the NIH, Harold E. Varmus, completed his residency training at Presbyterian Hospital in 1968 and came to NIH as a clinical associate for his introduction to research just as Shannon retired; his predecessor, Bernadine P. Healy, had just finished her sophomore year in medical school at that time. Neither experienced the environment that prevailed in the world of biomedical research in the pre-Shannon era. In fact, "hardly a man is now alive who remembers ..."

A Memorial Service
for
Dr. James A. Shannon
will be held on
Friday, Sept. 23, 1994
10:00 a.m.
Wilson Hall,
The Shannon Bldg.

Shannon brought to his new position a few abiding convictions: profound faith in the power of science to transform medicine into a far more effective instrument for improving the human condition; a keen sense that the scope and intensity of the national research effort was pitifully short of what it ought to be; and the persuasion, reached during the war, that only the federal government had pockets deep enough to provide the resources necessary to actuate the scientific potential of the country. The directorship gave him the platform from which, with long enough levers, he would be able, according to Archimedes, to move the world. In FY 1956, the year before he took over, NIH had awarded to all U.S. academic institutions about $59 million for research grants, training grants and fellowships. Data are imprecise but, as best one can estimate, these institutions also received probably no more than about $30 million for health related research from other federal agencies—NSF, DOD, AEC—and perhaps an additional $50 million for similar purposes from private sources. The total national expenditures for health related research in academic institutions were thus about $140 million, an amount that, adjusted for inflation, is equal to the sum of 1993 NIH awards to the 5 or 6 most research-intensive medical schools.

Shannon quickly tackled two major impediments to the realization of his vision—research space and trained personnel.

- The Health Research Facilities

Shannon *(continued on p. 18)*

Shannon *(continued from p. 17)*

Construction Act of 1956 became the vehicle for eliminating the first. The initial awards under the authority were made during his first year in office and, until it became a casualty of the Viet Nam war in 1968, it provided $473 million to fund 1,485 construction projects that remodeled, replaced or added about 19 million net square feet of modern laboratory space, housing an estimated 80,000 research personnel. In this effort, 407 different public and private non-profit recipient institutions matched the federal awards with $635 million of their own funds. Taking inflation into consideration, the total expenditures over the lifetime of the program would equate to more than $5 billion in 1993 dollars.

• Training programs were expanded rapidly and reoriented to emphasize scientific rather than clinical training; later, the research career development and research career award programs for the development of research faculty were inaugurated; and in 1964, the Medical Scientist Training Program (MSTP), leading to dual (M.D. and Ph.D.) degrees was established.

Additional changes followed quickly.

• The effectiveness of the research grant program was enhanced by increasing allowable costs, so that by 1969 these approached the average size of a contemporary award, and by creating new types of research grants—program projects and centers—that broadened the scope of a research endeavor and facilitated interdisciplinary research.

• Targeted research, funded through research contracts, was pioneered by the Cancer Chemotherapy National Service Center.

• In response to perceived special needs, a national system of Primate Research Centers was created, as also were research resource programs such as general and special clinical research centers and computer centers.

• Assistance to sponsoring grantee institutions through formula grants—originally called general research support and, later, biomedical research support grants—were started in 1960.

• Increasing program complexity coupled with expanding opportunities necessitated the creation of new organizational entities: the Center for Aging Research (1957); the Division of General Medical Sciences (1958); the Center for Research in Child Health (1961); the Division of Research Facilities and Resources (1962); the National Institute of Child Health and Human Development (1963); the National Institute of General Medical Sciences (1963); the Division of Computer Research and Technology (1964); the Division of Regional Medical Programs (1966); the Division of Environmental Health Sciences (1967); the John Fogarty International Center for Advanced Studies in the Health Sciences (1968); the transfer of the National Library of Medicine to the NIH (1968); and the National Eye Institute (1968).

By the time of Shannon's retirement in the summer of 1968, the NIH budget that he had inherited, adjusted to account for the loss of the National Institute of Mental Health in 1967 (about $65 million), had grown 20-fold to about $1,300 million; the number of research grants grew from 3,300 $10,000 awards to 12,600 $50,000 awards; training grant awards had increased five-fold and the dollar value of each had tripled; and fellowship awards had almost followed suit. The face of academe had been given a significant lift. And the nation's biomedical research enterprise had been changed beyond recognition.

Much has been written about the fortuitous—and probably never again likely to recur—concatenation of events that operated during Shannon's tenure. But while the time and place might have been right, no one closely associated with the cascade of successes during that epoch will ever be persuaded that any person in the nation other than Jim Shannon could have made them come to pass. The array of talents and skills that I saw him bring to the job—others may have different perceptions—deserve to be catalogued.

• Intelligence, above all else; he was certainly the smartest person that I ever met.

• Perhaps the next most critical was—call it what you will—vision, imagination, creativity. His sense of where biomedical science ought to be and his conviction that getting it there was a practical and feasible ambition was virtually his alone at the start and picked up adherents only after the "roll" was well underway. Possessed of this grand design, Shannon's agenda was always far broader than that of others. What has been characterized as his opportunism was simply emplacing a tile that appeared suddenly from an unexpected quarter into the proper place in his visionary mosaic. The story is told of a Saturday morning meeting set up, after extensive staff preparation, with the chief clerk, Herman Downey, of the Senate Appropriations Subcommittee—Sen. Hill's principal staff person for appropriations—to discuss the pressing need for a new administration building to house the staff who were bearing the crushing work load engendered by the burgeoning extramural program. To the dismay of his staff, just a few minutes into the meeting, Shannon dropped the issue—charts, statistics, audio-visuals and all—and introduced a new one. By the time the meeting ended, Shannon had picked up a promise—later reified—to fund two new intramural research buildings containing 500,000 gross square feet of space for NCI and NINDS (Bldgs. 36 and 37). After Downey departed, he instructed

staff to rent more space for the administrative functions. He, and he alone, had detected almost as soon as the meeting began that Downey didn't think Sen. Hill would want to defend on the floor of the U.S. Senate the appropriation of funds for an administration building and decided to try for a different brass ring.

• He also was possessed of unbounded self-confidence and never harbored a second's doubt about the correctness of his decisions. One of his colleagues described him as a guy perennially "sure he could belt one out of the park" whenever such became necessary. Many of us witnessed him doing exactly that on many occasions. This should not be read as arrogance. Shannon sought advice continuously, always soliciting the views of the most critical thinkers he could find on the topic at hand, and he was a very good listener. But when he had heard it, digested it, integrated it and come to a conclusion, he acted with confidence and serenity, whatever outcries might ensue.

• Shannon was extraordinarily single-minded in every endeavor he undertook. He had essentially no hobbies, avocations or outside interests—maybe a little gardening, off-and-on interest in hi-fi system design, more for the fidelity than the music. He was not given to small talk and was utterly preoccupied by the task to which he had committed himself. Predictably, retirement would be difficult for such a person. He resolutely eschewed contact with his successors unless they sought his counsel because of his belief that outside meddling was intolerable. He had been singularly free of this as NIH director. His bosses, the surgeons general of the Public Health Service (Len Scheele, Lee Burney, Luther Terry and Bill Stewart), for a brief period, the assistant secretary for health, Phil Lee, and the departmental secretaries (Marion Folsom, Arthur Flemming, Abe Ribicoff, Tony Celebreeze, John Gardner and Wilbur Cohen) had given him unusually free reign, recognizing that his use of it would make their responsibilities easier and enhance the reputation of their bailiwicks.

• Another Shannon priority was to master "how the game was played"; he did and so became a quintessential bureaucrat, in the best sense of the term. His mastery helped him find the shortest distance to whatever was his goal. He's been called a good Irish "pol" but I found him as apolitical as anyone I've ever known. He did however identify those institutions and individuals whose help he needed to achieve his objectives and cultivated them assiduously, skillfully and successfully. Early in his tenure, he forged an unlikely troika with the patrician senator from Alabama, Lister Hill and Rep. John Fogarty, who before election to the Congress was an official in the bricklayer's union. Their close collaboration lasted until Fogarty's death and Hill's retirement. They were, to a man, dedicated to the same broad purposes; the two legislators relied on Shannon more than on any other individual to tell them how to get there. He cultivated the departmental secretaries, with the knowledge and approval of the surgeons general, with special care since they had access to the President. During my time around the front office, hardly a day passed without a call to or from the secretary. The Bureau of the Budget (BOB), later the Office of Management and Budget (OMB), was a tougher nut to crack; there was plenty of mutual respect but not much warmth because Shannon regularly beat them at their own game. I should, however, note that one of his BOB/OMB adversaries in later years described the Shannon era as the period when BOB/OMB was engaged in building the nation's capacity for health research. Shannon vested a lot of energy in cementing relationships with the President's science advisors, George Kistiakowsky, Jerome Wiesner and Donald Hornig, their office (then the Office of Science and Technology), and their functions, principally the President's science advisory committee.

• Finally, Shannon had a remarkably pragmatic and eclectic outlook. Long convinced of the need for deeper scientific penetration of medicine as the *sine qua non* for progress in the latter field, he obviously was a strong proponent for fundamental research. But he was also as intensely concerned as anyone in Washington about clinical applications and was wont to remind his scientific and institute directors on frequent occasions to be alert for opportunities to apply advances in basic knowledge to the improvement of the management of human disease.

Shannon was not just a wheeler/dealer working in the vineyard of the lord. He presided over a large institution— a staff of 6,300 when he became director and 13,300 at the time of his retirement. He was a hands-on manager with an omnivorous appetite for detail. But he reposed great confidence in his staff, delegated freely and encouraged initiative. The keenness of his insights into what it took to operate a big program responsibly and accountably was a source of frequent surprise and astonishment to fledgling staff members, as was the level of detail to which he was knowledgeable about the programs of the individual institutes within NIH. Much of his knowledge came from the intense concentration he devoted to the budget process—negotiating with institute and division directors, assembling their submissions, defending the NIH submission before the Public Health Service, the department and the BOB/OMB, constructing and arguing

Shannon *(continued on p. 20)*

Shannon *(continued from p. 19)*

the appeals, reviewing proposed Congressional testimony of NIH units and making his own annual statements to the House and Senate. Shannon was at the witness table throughout all NIH budget hearings, reinforcing the testimony of his institute directors, deflecting criticism and seizing upon any new opportunities that might arise. If asked, as he often was, to help in the preparation of appropriations committee reports, he volunteered with alacrity. I doubt that any federal official, before or since, has been as respected by the congressional committees that held jurisdiction over their agency as was Shannon. He knew how to make organizations work well and how to make his lieutenants work in concert for common cause. His was always a high morale and happy ship.

What manner of man? Tall, trim, quiet, soft-spoken, modest, unassuming, totally unimpressed by the plaudits that came his way, apparently relaxed and easy-going, open, straight-forward, undevious and, above all, dispassionate. He had a great capacity to put setbacks and unpleasantries behind him quickly, to avoid recriminations and to waste no time or energy nursing grudges. I saw Shannon angry only once and for good cause; the anger dissipated in seconds when he recognized, and said, " I can't chew him out, I need him too much." His standards and expectations were high. Those who failed to meet them more than once or twice never got any more assignments. If an old friend called to ask for information on, or help in preparing an application for some new support device, he'd always respond generously, occasionally assembling half a dozen senior NIH staff people to brief the applicant group. But the final word was always that their fate would be decided by the study section. Personal attachments never got in the way of dispassionate and objective judgement of performance. Yet he always seemed to be able to find time to advise and counsel those who sought such. Stories abound of spontaneous acts of kindness, thoughtfulness and generosity. There are a thousand Shannon stories waiting to be told.

Jim Shannon did have his "warts." He was no saint, he made some mistakes and was surely not perfect. But these flaws are dwarfed into utter insignificance by his monumental contributions to the structure of the enterprise of biomedical research at home and abroad, surely the finest achievement of American science in the second half of the 20th century. We shall not soon see his like again.

A photo taken on Aug. 23, 1966, showing attendees at a meeting of NIH consultants held in the Clinical Center auditorium. Seated (from l) are Dr. Philip R. Lee, assistant secretary of health and scientific affairs, DHEW; Dr. John F. Sherman, associate director for extramural programs, NIH; Dr. Stuart M. Sessoms, deputy director, NIH; Dr. William H. Steward, surgeon general, PHS; Dr. James A. Shannon, director, NIH; and John W. Gardner, secretary, DHEW.

Science Research Updates

Fluoride Offers Hope for Treating Osteoporosis

Treatment with fluoride and calcium supplements prevents new spinal fractures and helps rebuild spinal bones in patients with osteoporosis, according to interim results from an ongoing clinical trial at the University of Texas Southwestern Medical Center at Dallas. The results offer hope for a new means to slow or possibly reverse this common disorder.

"Our findings show that this approach can greatly reduce new fractures, and they support the hypothesis we've had since the very beginning of this work," said Dr. Charles Y.C. Pak, distinguished chair for mineral metabolism and principal investigator for the university's Clinical Research Center. "That is, given in proper amounts with adequate calcium, fluoride is a means to form normal bone."

"Current therapies for osteoporosis put a brake on the bone loss but don't make it stop, so they really work best as preventives. These preliminary findings show that fluoride safely rebuilds already weakened, fragile bones," said NCRR director Dr. Judith L. Vaitukaitis. "If this therapeutic effect is sustained, fluoride will yield the first effective means to reduce the risk of fractures once osteoporosis sets in."

"There are currently very limited treatment options for women or men with established osteoporosis. If the bone-forming capacity of fluoride can be harnessed to build healthy new bone, it will provide an important alternative therapy," said Dr. Joan McGowan, chief of the NIAMS Bone Biology and Bone Diseases Branch.

About 25 million Americans have osteoporosis, in which progressive bone loss and decay cause frequent fractures with associated disability and death. Physicians typically aim to prevent or control osteoporosis using estrogen replacement therapy, calcium supplements, and the drug calcitonin, all of which slow bone loss. Fluoride, in contrast, stimulates the body to produce new bone.

In their article, Pak and his colleagues report interim results from treatment of 99 postmenopausal women with osteoporosis, randomly divided into two groups. The first group—48 women treated an average of 34 months—received a two-part regimen with daily calcium citrate supplements and cyclic (12 months of taking the drug followed by two months off) treatment with slow-release sodium fluoride. The second, placebo group—51 women followed for an average of about 30 months—received calcium citrate and placebo pills on the same schedule.

During this period, patients in the placebo group developed more than twice as many new spinal fractures (26 new fractures) as patients taking the fluoride/calcium combination (10 new fractures). In addition, scientists found that bone mineral content, measured in the spinal bones, rose by 4 to 6 percent among patients in the active treatment group after each fluoride cycle but did not change in the placebo group.

The interim results from the trial, supported by NIAMS and NCRR, appeared in the Apr. 15 issue of *Annals of Internal Medicine*.

Earlier studies have shown that high fluoride intake can lead to defective bone and cause such side effects as severe diarrhea, gastrointestinal bleeding, stress fractures, and increased non-spinal fractures. However, investigators in the current trial have not seen any significant side effects among treated patients. Moreover, they believe that the new bone was well formed, as indicated by the decrease in new spinal fractures.

Pak suggests that these results are due to better calcium dosing and use of slow-release sodium fluoride, which avoids high peaks in blood fluoride levels and passes through the stomach before breaking down. The fluoride preparation used in the trial is an experimental drug and is not available on the market.

Scientists will continue the study for about 2 more years to determine if benefits from the new treatment are sustained. They also plan a second study in women who have bone thinning but do not have fractures in order to assess the treatment's potential for fracture prevention in early osteoporosis.

—Frances Taylor and Elia Ben-Ari

Hormones May Offer Treatment for Insomnia

Scientists at the Massachusetts Institute of Technology Clinical Research Center have shown that tiny oral doses of melatonin can put people to sleep—findings that suggest that melatonin may offer an alternative to hypnotic drugs such as Valium, frequently used to relieve insomnia. Scientists say their results also suggest that melatonin plays a key role in inducing sleep.

"As you age, the amount of melatonin that your body secretes each evening from the pineal gland decreases and the incidence of sleeping difficulties increases. I see melatonin as being potentially useful, particularly in those who don't secrete enough of the hormone," said Dr. Richard Wurtman, program director for the MIT Clinical

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Updates *(continued from p. 21)*

Research Center and principal investigator in the current study. Results from the research, funded in part by NCRR and NIMH, appeared in the Mar. 1 issue of the *Proceedings of the National Academy of Sciences*.

"These results will help scientists to pull back the curtains that have obscured understanding of sleep," said Dr. Judith Vaitukaitis, director of NCRR, which funds the MIT Clinical Research Center. "They also boost future hope of a natural, nonaddictive agent that could improve sleep for millions of Americans."

Despite the promising results, consumers should not use melatonin that is sold in some health food stores, because the supplements may contain impurities and offer doses of the hormone that are "much too high," Wurtman cautions. "I am hopeful that a safe, regulated supply of the hormone may be available in the future." Extensive studies of the hormone would be needed before this would be possible.

In the placebo-controlled study, scientists gave 20 volunteers either a placebo or one of several very small doses of melatonin and asked them to close their eyes while holding a switch in a darkened room. They then measured how long it took for the volunteers to release the switch, an indication of their departure into sleep. All of the various doses of melatonin significantly speeded the onset of sleep and increased time spent asleep when compared with placebo. In addition, volunteers also reported increased sleepiness and fatigue after receiving melatonin.

"All of us have wondered what makes you fall asleep and what determines when you fall asleep," said Wurtman. "These findings suggest that one answer may be melatonin."

—Frances Taylor

Mouse Gene Linked to Defective Cartilage Development, Cleft Palate

Scientists have identified the genetic defect that produces a lethal condition in mice known as cartilage matrix deficiency. Culminating a search that began well over a decade ago, this finding opens an avenue to investigate the cause and treatment of human cartilage disorders.

The study was conducted by a research team led by investigators from NIDR. The results were released in the June issue of *Nature Genetics*.

Cartilage matrix deficiency, or *"cmd,"* refers to the molecular framework, or matrix, that normally gives cartilage its shape and shock-absorbing resiliency. The *cmd* mice are born with poorly formed cartilage, are dwarfed in appearance, have cleft palate, and die just after birth. The implicated gene produces a large protein called aggrecan, one of the major components of cartilage.

Although aggrecan is crucial to the structure of both mouse and human cartilage, mutations in the gene have not yet been linked to human disorders. However, the symptoms in *cmd* mice are similar to certain genetic conditions in which affected infants have severe developmental abnormalities and reduced levels of cartilage throughout the body.

"In the *cmd* mice, aggrecan may play a regulatory role in cartilage formation and the development of the palate," said Dr. Hideto Watanabe, of the NIDR Laboratory of Developmental Biology (LDB) and lead author on the paper. "We have evidence from tissue culture studies that the addition of aggrecan protein can reverse the abnormal matrix produced by *cmd* cartilage-forming cells. We would anticipate that the abnormalities observed in *cmd* mice could be prevented by introducing the normal aggrecan gene."

Cmd mice inherit a defective gene from each parent, and die shortly after birth. However, littermates that inherit one normal gene and one defective gene appear healthy but have about half the normal aggrecan content in their cartilage. These animals, termed "heterozygous" because they carry two versions of the gene, may also provide important insights into human disease, according to Dr. Yoshihiko Yamada, chief of LDB's molecular biology section and study director.

The investigators frequently see abnormalities in spine alignment and lower limb movement in older heterozygous animals. These mice have symptoms that resemble spinal paralysis and osteoarthritis in humans. According to Yamada, the physical degeneration could be due to cartilage in the vertebra and joints wearing out prematurely. "There may be a connection between a defective aggrecan gene and the development of ruptured vertebral discs and osteoarthritis in these mice, as well as in certain aging human populations," he said. "The *cmd* heterozygous mice could prove to be a useful model for testing therapeutic strategies."

—Wayne Little

New Vaccine Strategy Promising Against Schistosomiasis

A recently discovered immune system protein given in a vaccine might help prevent the organ damage caused by schistosomiasis, a worm infection prevalent in the developing world, according to a research report from NIAID.

Among parasitic diseases, only malaria causes more disability and deaths than schistosomiasis. Schistosomiasis afflicts more than 200 million people worldwide who swim or wade in infested waters. The disease occurs in 74 tropical and subtropical countries, and causes some 800,000 deaths each year.

Free-swimming larvae of the parasite penetrate the skin, migrate toward the liver and mature into adult worms. The serious symptoms of schistosomiasis occur when female worms deposit eggs in a person's tissues. Immune system cells wall off the eggs into cysts known as granulomas, clogging capillaries, blocking blood flow and often resulting in scar tissue (fibrosis) in organs. Complications of long-term infection may include liver cirrhosis, bladder tumors, kidney failure and death.

In experiments reported in the May 1 *Journal of Experimental Medicine*, NIAID investigators demonstrated that IL-12, a signalling molecule secreted by certain immune system cells, repressed granuloma formation in mice previously injected with eggs from *Schistosoma mansoni*. *S. mansoni* is one of three major species of worms carried by fresh-water snails that cause schistosomiasis in man, and it causes a similar disease in mice.

"In egg-injected mice, we found that IL-12 significantly reduced the size of granulomas," says lead author Dr. Thomas A. Wynn, of the immunology and cell biology section in NIAID's Laboratory of Parasitic Diseases. "Smaller granulomas might mean less fibrosis and, consequently, less serious disease in people with schistosomiasis."

These results suggest that an IL-12 vaccine might also prevent the formation of schistosomal granulomas. To test this hypothesis, Wynn and his colleagues injected mice with a combination of eggs and IL-12, and 4 to 12 weeks later reinjected eggs alone.

"In the inoculated animals, only small granulomas formed after the second exposure to eggs, and these accumulations of cells were almost completely gone after 14 days," says Wynn. "Our data suggest that it one day may be possible to use certain egg molecules plus interleukin-12 in a vaccine to prevent granulomatous disease in people with schistosomiasis. This approach might help prevent disease in individuals constantly reinfected with schistosomes."

The NIAID researchers are now determining whether the combined egg/IL-12 vaccination can provide lasting protection for mice against fibrosis and other problems associated with granuloma formation. The scientists also are examining whether the approach can protect mice naturally infected with *S. mansoni*, because granuloma formation from natural infections may be different than that following egg injection.

The NIAID report adds to a growing understanding of how IL-12 and other molecules regulate the immune response to parasitic infections. The investigators found that IL-12 probably prevents granuloma formation by triggering the production of a second immune system protein, interferon-gamma.

"Interferon-gamma is central to cell-mediated immunity, in which cells such as macrophages kill invading organisms directly," explains Dr. Alan Sher, chief of the immunology and cell biology section. "Our studies suggest that interferon-gamma also down-regulates granuloma formation. Through its effects on the production of interferon-gamma, IL-12 has enormous potential as a therapy or vaccine component to manipulate the immune response."

Once in the body, schistosomal worms can live in the veins of the bladder and intestines for 5 to 30 years, and each female can produce 300 to 3,500 eggs a day. Although the three species of schistosomes that cause serious disease are not native to the continental United States, schistosomiasis is often seen in people from countries where the disease is endemic who now live in the U.S., and in travelers who increasingly contract the disease as "adventure" tourism increases. For those who are infected, safe, effective and low-cost oral drugs are available to treat schistosomiasis: praziquantel and metrifonate can be used against all three species, and oxamniquine is effective against *S. mansoni*. However, "There is now evidence that the parasite can develop resistance to these drugs," says Sher. "Therefore, new approaches for preventing and treating schistosomiasis are needed."

Coauthors of Wynn and Sher include Drs. Isam Eltoum, Isabelle P. Oswald and Allen W. Cheever, all of the Laboratory of Parasitic Diseases.

—Greg Folkers

This material was compiled from institute information office articles.

NIH Notes — March 1994 to July 1994

AWARDS AND HONORS

Dr. Sankar Adhya, chief of the developmental genetics section in NCI's Laboratory of Molecular Biology, was recently elected to the National Academy of Sciences ... **Dr. Gerald Chader,** a researcher at NEI for 23 years and chief of NEI's Laboratory of Retinal Cell and Molecular Biology since 1985, recently received his second award from the Alcon Research Institute for his outstanding contributions to vision research, specifically for his work on a new protein, pigment epithelium-derived factor, which acts as a neurotrophic and neuron survival factor in specific retinal and brain cells. He was also recently awarded an honorary doctorate from the University of Lund in Sweden ... **Dr. Ronald Elin,** chief of the Clinical Center's clinical pathology department, received the Award for Outstanding Contributions to Clinical Chemistry in a Selected Area of Research. The award is given annually by the American Association for Clinical Chemistry to a clinical chemist who achieves "national and international status for pioneering efforts in an area of research considered fundamental to the science and is considered among the world's foremost experts in that specific discipline" ... **Dr. Ronald Dubner,** chief of the NIDR Neurobiology and Anesthesiology Branch, was honored when the 1994 scientific meeting of the American Academy of Orofacial Pain was dedicated to him in honor of his "individual excellence and achievement in pain research" ... **Dr. Joseph F. Fraumeni, Jr.,** NCI associate director for epidemiology and biostatistics, has won the 1993 American College of Epidemiology's Abraham Lilienfeld Award. Named for the founder of the American College of Epidemiology, the Lilienfeld Award was given to Fraumeni for his contribution to the field of epidemiology in terms of research, practice, or both ... **Dr. Daniel L. Gilbert,** head of the unit on reactive oxygen species in the biophysics section of the Clinical Neuroscience Branch, NINDS, was recently honored by being chosen as the Rebeca Gerschman Lecturer at the Oxygen Radicals in Biochemistry and Medicine International Symposium in Buenos Aires. His research on oxygen-free radicals in living cells began in the early 1950's with Gerschman ... **Dr. F. Terry Hambrecht,** director of the NINDS Neural Prosthesis Program, recently received the Goldenson-Goldenson Technology Award from the United Cerebral Palsy Research and Education Foundation. Hambrecht, who is both a research physician and an electrical engineer, was honored for his scientific leadership in the restoration of function to the injured nervous system ... **Dr. Leland Hartwell,** a longtime NIGMS grantee and a member of the National Advisory General Medical Sciences Council, recently received a 1994 Commonwealth Award, sponsored by the Bank of Delaware. Hartwell, a professor of genetics at the University of Washington in Seattle, was honored for his work in yeast genetics and cell division ... **Dr. Elise C. Kohn** of NCI has received from the 1994 Arthur S. Flemming Award from Downtown Jaycees of Washington D.C. She was honored for her "pioneering studies of cancer cell invasion leading to the first human clinical trials of signal transduction therapy" ... **Dr. Kyoshi Mizuuchi,** visiting scientist and chief of the section on genetic mechanisms in the Laboratory of Molecular Biology, NIDDK, was recently elected to the National Academy of Sciences ... **Dr. Matilda White Riley,** senior social scientist at NIA, was recently elected to the National Academy of Sciences. She also received an honorary degree recently from Radcliffe College during ceremonies marking the 100th anniversary of the college's charter ... **Dr. Michael Rogawski,** chief of the NINDS neural excitability section, received the 1993 Epilepsy Award for Outstanding Contributions to the Pharmacology of Antiepileptic Drugs at the recent annual meetings of the Federation of American Societies for Experimental Biology, in Anaheim. Rogawski was honored for his outstanding contributions and achievements in epilepsy research and the potential they hold for development of new therapies for human epilepsy ...**Dr. Lawrence Shulman,** NIAMS director, recently received a Presidential Citation from the American Academy of Dermatology in "grateful appreciation and recognition of {Shulman's} leadership as the first director of the National Institute of Arthritis and Musculoskeletal and Skin Diseases." Shulman was also recently presented an award by the National Alopecia Areata Foundation "in recognition of his vision and leadership" for initiating a national research workshop on alopecia areata ... **Dr. Chris H.M. Takimoto** of the NCI-Navy Oncology Branch was awarded the Clinical Research Career Development Award by the American Society of Clinical Oncology recently in Dallas ... **Dr. Henry DeF. Webster,** chief of the NINDS Laboratory of Experimental Neuropathology, recently received the Peripheral Neuropathology Association Scientific Award. He was honored for his pioneering work in peripheral nerve ultrastructure and development.

APPOINTMENTS AND PERSONNEL CHANGES

Dr. Ronald P. Abeles, a longtime NIA scientist and administrator, has been named associate director for behavioral and social research at NIA ... **Dr. Wendy Baldwin** has been appointed NIH deputy director for extramural research. She has been acting deputy director since last June. She leaves her position as deputy director of NICHD, a position she has held since 1991. Before that she was chief of NICHD's Demographic and Behavioral Sciences Branch, Center for Population Research, from 1979 to 1991. Prior to that, she was a health scientist administrator at NICHD, 1973-1979 ... **Dr. Jean Chin** recently joined the staff of NIGMS as a program administrator in the Cellular and Molecular Basis of Disease Program Branch. She is responsible for administering grants in lipid metabolism, membrane biochemistry and biophysics, and transport. She comes to NIGMS from the Cell Biology and Metabolism Branch, NICHD, where she has served a senior staff fellow since 1991 ... **Dr. George W. Counts** has been named director of the Office of Research on Minority and Women's Health within the Office of the Director, NIAID. An authority on infectious diseases, Counts has been at NIH since 1989, serving as chief of the Clinical Research Management Branch in the Division of AIDS, NIAID ... **Dr. Rex W. Cowdry** has been chosen acting director of the National Institute of Mental Health. His appointment was made after the resignation of Dr. Frederick K. Goodwin in April. Cowdry previously served as deputy director for research at St. Elizabeths Hospital and head of the NIMH Neuropsychiatric Research Hospital, Division of Intramural Research. He also was acting deputy director of NIMH from

1986 to 1988 and from February to April 1995. He is noted for his clinical research advances in mood and personality disorders, particularly rapid cycling bipolar disorder and borderline personality disorder ... **Dr. John I. Gallin,** director, Division of Intramural Research, NIAID, since 1985, and also chief of the institute's Laboratory of Host Defenses since 1991, has been named director of the Warren Grant Magnuson Clinical Center and NIH associate director for clinical research; he assumed both posts on May 1 ... **MaryAnn Guerra** has been named executive officer at NHLBI. She comes to NHLBI after a long federal career, including nearly a decade at NIAID, where she served most recently as chief of both the Technology Transfer Branch in the Office of the Director and the Administrative Management Branch in the Division of Intramural Research. Her work at NIH has included development of automated systems for acquisitions, budget, and personnel demands, and managing cooperative research and development agreements and other technology transfer-related efforts ...**Dr. Ada Sue Hinshaw,** who became the first permanent director of the National Institute of Nursing Research, has left that post to become dean of the nursing school at University of Michigan ... **Dr. Marvin Kalt** has been appointed director of NCI's Division of Extramural Activities. He had been deputy director of the division and acting director since Barbara Bynum retired earlier this year. Dr. Robert Browning has been named acting deputy director ... **Dr. John Y. Killen, Jr.,** has been selected as director of the Division of AIDS, NIAID. He had been acting director of DAIDS since June 1993, following the resignation of Dr. Daniel F. Hoth ... **Dr. William G. Kohn** has been named chief, patient care and clinical studies section and deputy clinical director at NIDR. He succeeds Dr. Albert Guckes, who retired recently. A diplomate of the American Board of Oral Medicine, Kohn has served in a wide range of clinical and administrative capacities both for NIDR and other public health organizations ... **William T. Magers, Jr.,** NIH fire chief for the past 5 years and an expert in emergency management, has been selected as the NIH emergency planning coordinator within the Emergency Management Branch, Division of Safety ... **Dr. Clifton A. Poodry** recently became the first director of the Minority Opportunities in Research (MORE) Program Branch, NIGMS. The MORE branch is the focal point for the institute's efforts to increase the number of minority individuals engaged in biomedical research. He comes to NIH from the University of California, Santa Cruz, where he has worked since 1972, with the exception of 2 years (1982-1984) when he served as director of the developmental biology program at the National Science Foundation. He has had a long association with NIH ... **Dr. Jerry Rice,** chief of the Laboratory of Comparative Carcinogenesis, Division of Cancer Etiology, NCI, has been appointed director of the Frederick Cancer Research & Development Center. He first joined NCI in 1966. His research interests are in mechanisms of carcinogenesis, especially perinatal carcinogenesis ... **Dr. Zeda Rosenberg** has been named assistant director for prevention research, NIAID. She will coordinate research programs that focus on prevention and serve as a liaison between the NIAID Office of the Director and other ICDs, the NIH director's office and other PHS agencies. She has served as assistant to the NIAID director. She has been and will continue to be coordinator of NIAID's activities in tuberculosis research and other efforts relevant to the institute's prevention research agenda ... **Dr. Mario Sznol** recently became head of the biologics evaluation section of the Cancer Therapy Evaluation Program in NCI's Division of Cancer Treatment ... **Anne Thomas,** acting associate director for communications within the Office of the Director since February 1992, has been named associate director for communications, OD ... **Dr. Barbara A. Underwood,** who has worked at NEI since 1982 as the director's special assistant for nutrition research and international programs and, since 1989, as assistant director for international program activities, has accepted a senior scientist position in the nutrition unit of the food and nutrition division of the World Health Organization in Geneva, Switzerland.

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The Institute for Scientific Information reports that a paper by researchers in NIAID's Laboratory of Immunoregulation was the second most cited scientific paper of 1993. Shown are authors of the paper, "HIV Infection is Active and Progressive in Lymphoid Tissue during the Clinically Latent Stage of Disease," (from l) Drs. Anthony S. Fauci, Giuseppe Pantaleo, Cecilia Graziosi and Luca Butini, and biologist Jim Demarest. The paper, which appeared in the Mar. 25, 1993, *Nature*, demonstrated that "significant viral activity occurs within lymphoid tissue even during the symptomless stage of HIV infection when patients feel well and damage to the immune system is not yet severe," says Fauci. "This information has important implications for the design of therapeutic strategies, suggesting a role for drugs that might be used early in the course of infection." Other authors not pictured are Drs. Cecil H. Fox, Jan M. Orenstein and Donald P. Kotler.

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RETIREMENTS

Rowena Ahern, information and exhibits assistant in the NINDS Office of Scientific and Health Reports, has retired after 41 years of government service. Although she has retired, she will be back on NIH's campus from time to time. Her retirement plans include volunteering at the Fogarty Hospitality Center, helping out in the R&W main office, and travelling to Hawaii and Argentina ... **Arthur A. Campbell** recently retired as deputy director of the Center for Population Research (CPR), NICHD. A demographer, he was deputy director of the CPR since its inception in 1968 ... **Dr. Gene Cohen,** who served as acting director NIA from August 1991 to June 1993 and as deputy director from 1988 to 1983, retired from the Public Health Service recently after completing 20 years of federal service. He is a geriatric psychiatrist and was the first chief of the Centers on Aging at NIMH, the first federally supported center on mental health and aging established in any country. Cohen is returning to an academic appointment as founding director of the newly established Center for Aging, Health, and Humanities at George Washington University ...**Donald F. Cyphers,** financial management officer at NIDDK, retired Jan. 3 after 37 years of federal service, 27 of which were spent with NIDDK. He played a key role in developing and implementing program operation guidelines, while also serving as a senior advisor to four institute directors. Once retired Cyphers will divide his time between a Victorian house in Olde Towne Gaithersburg and a house on Lake Dora in central Florida ... **Dr. Murray Eden** has retired as director of NCRR's Biomedical Engineering and Instrumentation Program, ending half a century of federal service. For the past 18 years, he has overseen operation of NIH's intramural hub for engineering and related sciences. In recognition of his contributions to the advancement of biomedical engineering and instrumentation, Eden received the NIH Director's Award in 1993 ... **Dr. Albert D. Guckes** retired from the Public Health Service Commissioned Corps Apr. 1 after 27 years of service. Since 1989, he had served as the chief, patient care and clinical studies section and deputy clinical director at NIDR. He initiated NIDR's clinical research program on dental implants. He leaves NIDR to become director of the graduate program in prosthodontics at the University of North Carolina School of Dentistry, fulfilling a longstanding wish to be formally involved in academics ... **Dr. Carl A. Kuether,** program administrator for the biorelated chemical processes grants in the Pharmacology and Biorelated Chemistry Program Branch, retired recently after 32 years of government service, 28 of which he spent at NIGMS. He and his wife have moved to Madison, Conn. to be near his daughter and grandchildren. He plans to spend his time with his family, reading and pursuing a hobby of building furniture out of kits ... **Dr. Harald Löe,** director of the National Institute of Dental Research, retired from the federal government on June 1. The fifth director of NIDR, he served in this position since Jan. 1, 1983. During his tenure, he fostered the growth of oral health science from a narrow concern with teeth and gums to a broader discipline encompassing all the oral and craniofacial tissues, as well as behaviors associated with the cause and prevention of disease and the maintenance of health. Under his directorship, NIDR implemented a variety of means to convey research findings from the laboratory to the profession and to the public. He is known internationally for his contributions to periodontal disease research. He is now university professor at the University of Connecticut Health Center in Farmington ... **Kenneth Reeves,** section chief of the Telecommunications Branch, OARS, has left NIH after 23 years of providing communications expertise, advice, and service to the NIH community. He has joined the Public Health Service as chief of the Telecommunications Branch at its Parklawn Bldg. headquarters. He will miss all of his friends and colleagues at NIH, but looks forward to his new venture with PHS ... **Dr. Saul Rosen,** who has guided the Clinical Center as acting director since 1990, retired in June. He first came to NIH in 1958 for a 2-year stint as a clinical associate in the then National Institute of Arthritis, Metabolism and Digestive Diseases. He returned here to stay in 1961. He served as a senior investigator in the institute's Clinical Endocrinology Branch from 1961-1984, and was named deputy director of the Clinical Center in 1984. His retirement plans include learning to play the piano as a prelude to reading music and taking singing lessons ... **Dr. Novera Herbert Spector** of the Division of Fundamental Neurosciences, NINDS, retired from NIH on May 31. He had a distinguished career at NIH. He has recently been elected as an honorary foreign member of the Romanian Academy of Medical Sciences. He has been awarded many honors especially for his research on "NIM"—neuroimmunomodulation, a term he coined referring to interactions between the nervous and immune systems. As a health scientist administrator for 18 years at NIH, he initiated programs in support of research in local neuronal actions and NIM, both of which were considered risky and unconventional 15 years ago, but both of which have flourished and become mainstream science today.

DEATHS

Ella Reznek Bach, 82, a retired secretary at NIMH, died of a cerebral hemorrhage July 29, 1993, at Washington Adventist Hospital. She went to work at NIMH in 1955 and retired about 1965 and devoted herself to volunteering ... **Karen Marie Bariga,** 37, an office assistant with NICHD's Office of Administrative Management, died Feb. 16 of breast cancer at her home in Silver Spring. She joined NIH in 1986 and had been with NICHD since 1988 ... **Geraldine Stelling Benson,** 79, who worked at NIH in the Office of Program Planning, OD, starting in the early 1950's until she retired in the mid-1970's, died on May 22 ... **Jon Fredric "Rick" Carow,** 50, employed at NIH for more than 30 years, died of cancer on Mar. 7 at his home in Mount Airy, Md. His career at NIH was in grants management. Starting out as a mail clerk in NHLBI's Grants Operations Branch, Carow rose to become the deputy chief of NIA's grants and contracts management office. Away from NIH, he was an accomplished composer and musician ... **Dr. R. Lee Clark,** 87, retired president of the University of Texas's M.D. Anderson Cancer Center, died of cancer May 23 at M.D. Anderson. He served on the President's Cancer Panel, which supervised implementation of the National Cancer Act, from 1972 to 1977 ... **Elaine H. Connoley,** 77, a retired secretary and research assistant at NIMH, died of cardiopulmonary arrest Apr. 10 at the Home Cove assisted-care facility in Damascus. She worked at NIMH from 1961 until 1976

... **Walter Eddy Daniels,** 99, a retired NIH employee, died of a pulmonary embolism Apr. 3 at Arlington Hospital. He worked for the government special police at NIH starting in 1970 and retired in the mid-1970's ... **Dr. Irving Pierce Delappe,** 78, a retired molecular biologist with NIAID, died May 19 at Manor Care nursing home in Potomac. He had Alzheimer's disease. In 1960, he started to work at NIH and retired in 1989 ... **Dorothy Henderson Fisher,** 84, a retired secretary at NCI, died of cancer Apr. 16 at her home in Bethesda. She began her career with NCI about 1955 and retired about 1978 ... **Gilbert John Frey,** 76, an administrative officer of the Division of Research Grants, NIH, died June 1 at his home ... **Constantine J. Gillespie,** 65, a retired NIH medical information specialist, died of a heart attack Mar. 4 on his boat in New Smyrna Beach, Fla. He retired from NIH in 1978 after 30 years of federal service ... **Dr. John F. Goggins** died on May 24. He had been at NIDR from 1964 to 1984. At the time of his death, he was director of research centers at Marquette University graduate school in Milwaukee, Wisconsin ... **Harriet W. Hobdey,** 78, a secretary who worked at NIH from 1971 until 1981, died of kidney failure June 24 at Suburban Hospital ... **Dr. Evan C. Horning** died May 14, 1993 in Texas. He was chief, Laboratory of Chemistry of Natural Products, National Heart Institute, from 1950 to 1961, specializing in lipid research. He was professor emeritus at Baylor College of Medicine ... **Capt. Nathan N. Jackson,** a veterinarian who served NCRR's Veterinary Resources Program for 15 years and an officer of the Public Health Service, died on Apr. 25 after a long battle with cancer. He served three branches of the U.S. armed services during his 28-year career and, within the Veterinary Resources Program, he also played many key roles, including chief of the genetic resources section and most recently, assistant to the director ... **Patricia Simpson Jordan,** 69, a retired grants financial analyst at NIGMS, died of cancer Apr. 18 at Suburban Hospital. She joined the staff at NIH in 1968 and retired in 1988 ... **Dr. Edward Katz,** 71, a retired professor of microbiology and immunology at Georgetown University Medical Center, died of cancer Apr. 11 at Georgetown University Hospital. From 1960 to 1962, Katz was a fellow in the Laboratory of Clinical Biochemistry ... **Dr. William A. Krivoy,** a renowned electrophysiologst and neurobiologist at Baylor University, died Oct. 24, 1993 in Richardson, Texas. He worked at NIDA's Addiction Research Center in Lexington until 1983, when he suffered a massive stroke. Since then, he convalesced in Texas. Krivoy was among the first to recognize the importance of neuropeptides as modulators and transmitters in the central nervous system ... **Howard Leviton,** 85, a government writer and editor at NIH, died Apr. 15 at his home in Rockville after a heart attack. He joined NIH about 1969 and retired in 1977 ... **Clarence A. Lowe,** 85, died on Feb. 13, 1993. He was a resident of Delray Beach, Fla. In 1967, following service in the military, Lowe joined NIH where he worked in the Division of Research Services. He left NIH to become assistant director of policy and procedures, Division of Grants and Contracts in the Health Service and Mental Health Association, U.S. Public Health Service. He also was assistant dean of the Harvard School of Dental Medicine and assistant dean of George Washington University ... **Dr. Walle J.H. Nauta,** 77, a founder of neuroscience and a leading authority on the brain, died of a blood infection on Mar. 24 in Cambridge, Mass. He was a professor emeritus of neuroanatomy at MIT, was a neurophysiologist at Walter Reed from 1951 to 1964, and taught at the University of Maryland from 1955 to 1964. He had served on the research career development awards committee of NIMH ... **Dr. Walter Lloyd Newton,** 77, died of renal failure Apr. 17 at Walter Reed Army Medical Center. He was a PHS captain who retired in 1975 as deputy associate director for program activities at NIGMS. He began his PHS career during World War II when he did research on malaria in Puerto Rico. He specialized in tropical and infectious diseases, especially on causes and treatment of infectious parasitic diseases. In retirement, he had been a consultant to NIH and the Food and Drug Administration ... **Margaret Virginia Roark,** 47, a retired program analyst at NHLBI, died of cancer at her home on June 5. In 1965, she began her NIH career as a clerical worker, spent the second half of her career as a program analyst and retired in 1993 ... **Dr. John Romano,** 85, a psychiatrist who taught generations of aspiring physicians, died of a stroke on June 19 at Strong Memorial Hospital in Rochester, N.Y. He was a founding member of NIMH. As a teacher and a physician, he emphasized the importance of creating a dialogue between patient and physician ... **Beatrice Rosen,** 68, retired chief of biometry at NIMH, died Mar. 14 at the Clinical Center of polyarteritis nodosa, a disease of the arteries. In 1958, after raising her children, she came to work at NIMH. Her work involved directing and writing studies, research papers and surveys on mental health. She retired in 1981 ... **Dr. James Augustine Shannon,** 89, a medical investigator and educator who was NIH director from 1955 to 1968, died of a ruptured aortic aneurysm on May 20 at the Church Home, a retirement facility in Baltimore (see p. 1 for an essay about him) ... **Dr. Roger W. Sperry,** 80, an experimental neurobiologist who was a cowinner of the 1981 Nobel Prize for Physiology or Medicine, died after a heart attack on Apr. 17 in Pasadena, Calif. He was a professor of psychobiology at Caltech for 30 years before retiring in 1984. He was cited by the Nobel committee for "his discoveries of the specialization of both cerebral hemispheres" and the development of an "entirely new dimension in our comprehension of the higher functions of the brain." He worked briefly at NIH in the 1950's as section chief dealing with neurological diseases and blindness ... **Lawrence Chesterfield Sullivan,** 67, of Kensington and Manassas Park, Va., died May 16 at Holy Cross Hospital. He worked at NIH as an electrician from 1946 until he retired in 1966 ... **Dr. Virginia Louise Zaratzian,** 75, a retired pharmacologist who worked at NIMH in the mid-1950's, died of cardiac arrest May 17 at a hospital in Del Ray Beach, Fla.

The NIH Alumni Association recently received a contribution in memory of Dr. James A. Shannon donated by Mr. Charles Miller.

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BALLOT

NATIONAL INSTITUTES OF HEALTH ALUMNI ASSOCIATION

PLEASE TEAR OUT AND RETURN WITH YOUR VOTE

In accordance with the bylaws of the NIHAA, alumni members of the association are to elect one-third of the board of the association. The nominating committee, appointed by President Thomas J. Kennedy, Jr., has nominated the alumni members listed below, each of whom has agreed to serve on the board of directors if elected, to occupy positions on the board left open by expiring terms of office of present members. Each alumnus(a) member may vote for three of the nominees. Please note that associate members (current NIH employees) are not eligible to vote in this election.

NOMINEES FOR BOARD OF DIRECTORS

Please vote for up to three (3) and return your ballot to the NIHAA office by Sept. 15.

- ☐ Ms. Vernice Ferguson — Chief of Nursing, CC
- ☐ Dr. William Gay — Scientist, DRR
- ☐ Ms. Jane Leitch — Executive Office, NCRR
- ☐ Ms. Marjorie Melton — Parasitologist, NIAID
- ☐ Dr. Bayard Morrison — OD, NCI Planning Office
- ☐ Dr. David Scott — Director, NIDR
- ☐ Dr. Eugene Weinbach — Research Chemist, NIAID
- ☐ Dr. Bernhard Witkop — Institute Scholar, NIDDK

NIH Retrospectives

N.I.H. record

FEDERAL SECURITY AGENCY

Summer 1954

Tremendous expansion and excellent progress have marked the first year's operation of the Clinical Center. From opening day July 6, 1953, to the close of business July 5, 1954, the Clinical Center has grown so rapidly that it now employs more people than any of the institutes. Construction work is virtually completed. The number of inpatients progressed from 17 on opening day to a total of 866. The average stay is 30 days. Over 100 clinical studies have been initiated ... Sept. 27, 1954, has been set as the opening date of the new graduate school program at NIH. Courses have been organized by the graduate school of the U.S. Department of Agriculture and will be administered by the NIH Office of Clinical and Professional Education.

the Record

Summer 1964

Scientists from NIH have implicated a small South American mammal in the transmission of a serious viral illness which has claimed more than 100 lives in Northeastern Bolivia. The disease is known as Bolivian hemorrhagic fever ... Dr. Wilton R. Earle, 61, a recognized world authority on the development of large-scale, long-term tissue culture methods, died May 30. He had been on the NCI staff since the institute was formed in 1937. Since 1952, he was head of the Tissue Culture Section, Laboratory of Biology, NCI ... On Aug. 17, 1964, the new Capital Beltway section between Wisconsin and Georgia Avenues is scheduled to open for traffic.

the NIH Record

Summer 1974

On May 31, 1974, the President signed into law a measure establishing the National Institute on Aging within NIH. The institute will conduct and support "biomedical, social, and behavioral research and training relating to the aging process, the diseases and other special problems of the aged."

The NIH Record

Summer 1984

Dr. G. Gilbert Ashwell, former chief of the Laboratory of Biochemistry and Metabolism, National Institute of Arthritis Diabetes, and Digestive and Kidney Diseases, has been promoted to the ranks of Institute Scholar. He is the first NIH scientist to be honored with this new rank ... Some 125 years of working talent and skill retired on June 29 in the persons of four staff members of the Pathology Technological Section of NCI's Laboratory of Pathology, which section, after 47 years of existence will close. Retiring were: section chief Barbara Coolidge, 30 years; Clara Mauck, 35 years; Ruby Thompson, 32 years and Lindell Dove, 28 years.

The above photo was sent to NIHAA *Update* by Louise R. Miller. The picture was taken in June 1958 of the "crew" that she worked with in the department of intermediary metabolism of the National Institute of Arthritis and Metabolic Diseases. In the front row are (from l to r) Dr. Shlomo Hestrin (Israel), Dr. Yoh Imai (Japan), Dr. Irwin Leder, Ethel Newson, Dr. DeWitt Stetten, Jr., Louise Miller, Coleman Seward and Dr. Glenn Mortimore. In the back row are (from l to r) Dr. Ben Bloom, Dr. Yale Topper, Dr. Marshall Nirenberg, Dr. John (Jack) Bryant, Howard Katzen, Dr. Frank Eisenberg, Jr., Dr. Frank Tietze, Bill Comstock and Dr. Leroy Pesch.