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PUBLIC HEALTH SERVICE

Dr. Luria to Give The Dyer Lecture Here Tomorrow

Dr. Salvador E. Luria, renowned authority on bacterial viruses, will give the twelfth R. E. Dyer Lecture in the Clinical Center auditorium tomorrow (April 24) at 8:15 p.m.



Dr. Luria

Dr. Luria is Professor of Microbiology at Massachusetts Institute of Technology and has been chairman of the MIT Committee on Microbiology since 1959. He is author of the standard textbook, *General Virology*, and is responsible for more than 100 scientific articles.

The lectures, in honor of a former Director of NIH, are given at appropriate times by scientists who have made an outstanding contribution to knowledge in a field of medical and biological research.

In his lecture entitled "How Does a Virus Work?" Dr. Luria will discuss the various mechanisms by which virus infection can direct cellular biosyntheses.

Dr. Luria is regarded as a pioneer in modern research in bacteriology. (See DYER LECTURE, Page 7)

Computer Center Plans Open House Next Month

Early in May the Computation and Data Processing Branch of the Division of Research Services will hold an Open House to acquaint employees of NIH with the services provided by the computer center.

Simultaneous demonstrations on one of the two H-800 computers, on the graph-scanning equipment, on the plotter, and on the punched card equipment will be presented by members of the Branch.

All employees of NIH are invited to acquaint themselves with the computational services and the equipment available.

The specific date of the Open House will be announced on bulletin boards and in the next issue of the *Record*.

Driscoll, Stanley, Witkop Appointed to New Posts In NIDR Reorganization

Dr. Francis A. Arnold, Jr., Director of the National Institute of Dental Research, has announced the appointment of Dr. Edward J. Driscoll to the newly created position of Clinical Director and the appointment of Dr. Harold R. Stanley and Dr. Carl J. Witkop, Jr., as Branch Chiefs in a reorganization of the Institute's clinical activities.



Dr. Driscoll

Under the Clinical Director there are now two branches. The Clinical Investigations Branch has been redesignated as the Oral Medicine and Surgery Branch with Dr. Stanley as Chief. The Human Genetics Section has been elevated to branch status with Dr. Witkop as Chief.

Dr. Driscoll is assigned organizationally to the Office of the Associate Director in Charge of Research, with administrative responsibilities for the Institute's overall (See NIDR POSTS, Page 7)

Filming of New NIH Movie Begins Soon; Jack Robinson, ORI, Will Direct Project

Places and faces at NIH will soon be framed for the motion picture camera as a new NIH film goes into production. The film is now being scripted by John W. Robinson of the Office of Research Information and will emphasize direct operations here.

Its main audience will be the thousands of visitors who come here each year wanting to know what NIH is and what it does. Through the film they'll be able to see many things that would be difficult if not impossible to show them in any other way.

The film is the first major product of a special effort being devel-

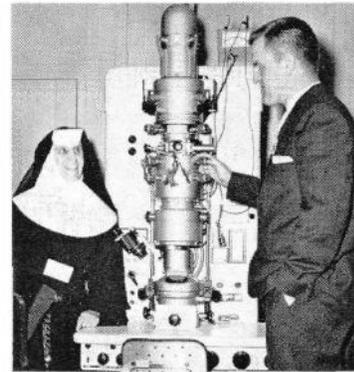


Mr. Robinson

Microscopists Display Techniques Here At First RMS Meeting Outside England

More than 400 eminent microscopists from every part of the Free World attended the 3-day meeting of the Royal Microscopical Society at NIH, April 7-9. It was the first meeting of the 124-year-old Society, chartered by Queen Victoria, to be held outside of England.

In this respect it set a new pattern in hands-across-the-sea relations. From the scientific point of view it provided world leaders in the field of microscopic investigation an opportunity to spell out many of the techniques being used in the approach to, and solution of, controversial biological and biomedical problems.



Dr. Howard Bladen, Laboratory of Histology and Pathology, NIDR, demonstrates an electron microscope for Mother Bonaventure, Chairman of Biological Sciences, College of New Rochelle, who attended the meeting of the Royal Microscopical Society. All RMS photos by Bob Pumphrey.

Visit NIH Labs

Plenary sessions were held Sunday and Tuesday in the Clinical Center auditorium. Monday was devoted to tours of NIH laboratories and other facilities in the Washington area, culminating with a reception for the Society's organizers, officers and Honorary Chairman at the British Embassy. The presidential banquet was held Sunday night at the Shoreham Hotel, Washington.

In his address of welcome to the members and registrants at the opening session, Dr. Luther L. Terry, Surgeon General of the Public Health Service and Honorary Chairman of the meeting, contrasted the competitive attitude of nations in the exploration of outer space with the cooperation that exists in the field of medical research.

Makes Comparison

"While nations compete in the sphere of outer space and vie with each other to determine the composition of far-off planets," he said, "those who are privileged to wear the caduceus know the heartsickness of failure and the quickening pulse of discovery.

"When men of good will and great knowledge mingle, the occasion is always an auspicious one, and I am certain that from your common efforts will come many uncommon results."

In his reply to the welcoming address, Dr. H. T. Hookway, Scientific Attache of the British Embassy, also stressed the importance of cooperation and freedom of discussion in contributing to the ad-

(See MICROSCOPISTS, Page 4)

oped by the Office of Research Information to make greater use of the film medium in supporting the objectives of the NIH and PHS.

Mr. Robinson will supervise the production of the new NIH film and expects to be in production by mid-summer.

Formerly With NIAMD

Formerly Information Officer of the National Institute of Arthritis and Metabolic Diseases, Mr. Robinson has been at NIH since 1958, coming here after gaining experience in the television industry as a cameraman and director, and in the journalism field as a medical reporter.

He has already produced two films for the Interdepartmental Committee on Nutrition for Na- (See NEW MOVIE, Page 7)

the NIH Record

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The NIH Record reserves the right to make corrections, changes or deletions in submitted copy in conformity with the policy of the paper and the Department of Health, Education, and Welfare.

NEWS from PERSONNEL

ANNUAL PERFORMANCE EVALUATION

During the month of April, supervisors are asked to make an annual performance evaluation and rating of employees under their supervision. The rating forms have been distributed. Detailed information concerning employee evaluations and performance ratings is to be found in Chapter V of the Personnel Guides for Supervisors.

Under the DHEW Performance Rating Plan there are three levels of ratings: Outstanding, Satisfactory, and Unsatisfactory. If either the Outstanding rating or the Unsatisfactory rating is recommended, there are special procedures to be followed. It is suggested that supervisors consult their Personnel Officers for more detailed information.

Recognition Deserved

In reviewing the actual performance of each staff member, it may become apparent that there are some employees deserving of special recognition. Each supervisor has a responsibility to initiate recommendations for awards for deserving employees. Recognition is a logical way to reward good performance.

Information that will be helpful in making appropriate recommendations for awards is found in the NIH Awards Handbook for Supervisors. Personnel Officers have this Handbook.

The results of a sound evaluation of an employee's performance helps the employee to know what part of his performance should be improved; it also highlights and commends good performance. It plays an important part in planning the employee's future. It helps

Xerox Duplicating Service Now Available in Bldg. 31

Donald R. Cushing, Chief of the Office Services Branch, OD, has announced that a Xerox duplicating service is now available in Rm. B2B13 in Building 31. This new service, while available to all NIH offices, is primarily for use by those in Building 31.

Material for duplication must be brought to and picked up by those requiring it, Mr. Cushing pointed out, as there is no available messenger service for this purpose.

However, he said, such material may be tubed or, if the order is a large one, advance phone arrangements may be made by calling Mrs. Mary McCormack, Ext. 4907.

both the employees and the supervisor.

SEGREGATED CONFERENCES BARRED

DHEW employees were reminded recently by Secretary Celebrezze that they are not to attend segregated conferences. In a recent memorandum the Secretary stated that, "... it is the policy of this Department that departmental personnel should not participate in segregated conferences, programs, or meetings. . . . I am asking each constituent agency to remind their personnel of the prohibition against accepting invitations to and participating in conferences and programs where persons who would otherwise be qualified to attend may be excluded or discriminated against because of their race, color, or religion."

If a man stands with his right foot on a hot stove and his left foot in a freezer, some statisticians would assert that, on the average, he's comfortable.—Wash. Post.

Upper Volta Honors DBS Team for Role In Vaccinating 731,000 Against Measles

On the eve of its departure from the Republic of Upper Volta, the 3-member medical team of the Division of Biologics Standards was honored at a reception by the Voltan Government for the role it played in the massive measles immunization program conducted in the West African nation.

Members of the DBS medical team, honored at the March 22 reception in Ouagadougou, were Dr. Harry M. Meyer, Jr., Chief of the Section on General Virology, Laboratory of Virology and Rickettsiology, and his associates, Dr. Daniel D. Hostetler and Barbara Bern-

heim, also of the Laboratory of Virology and Rickettsiology.

The DBS medical team had been in Upper Volta for six months. During that time it supervised the training of eight 3-member Voltan teams which vaccinated more than 731,000 Voltan children between the ages of seven months and four years with the attenuated measles virus vaccine.

The vaccine was donated by an American manufacturer, and the jeeps and "jet guns" used in the immunization program were financed by the Agency for International Development.

Appreciation Expressed

At the reception, Dr. Paul Lambin, Minister of Health of the Republic of Upper Volta, expressed thanks on behalf of his country to all personnel of NIH, DHEW and AID, and asked that his appreciation be transmitted to President Kennedy, Congress, and all the American people.

It has been reported that in Upper Volta, measles kills 25 to 50 percent of children during the first few years of life, as contrasted to only one in 10,000 in this country.

Although complete data on the attempt to eradicate measles from Upper Volta will not be available until the annual spring measles epidemic appears in West Africa, the experience has provided valuable information on the means by which large-scale measles immunization can be accomplished in a developing nation.

List of Latest Arrivals Of Visiting Scientists

3/14—Dr. Yoshimasa Fujita, Japan, Amino Acid Chemistry. Sponsor, Dr. Bernhard Witkop, NIAMD, Bldg. 4, Rm. 228.

3/25—Dr. Gavin M. Crowley, New Zealand, Enzymatic Studies on Metabolism of Histidine, Histamine, and Related Compounds. Sponsor, Dr. Herbert Tabor, NIAMD, Bldg. 4, Rm. 126.

4/1—Dr. Akira Yoshida, Japan, Protein Chemistry. Sponsor, Dr. Ernest Freese, NINDB, Bldg. 10, Rm. 10D05.

4/1—Dr. Toshifumi Takenaka, Japan, Physiology. Sponsor, Dr. Ichiji Tasaki, NIMH, Bldg. 10, Rm. B2A-27.

4/4—Dr. F. Peter Woodford, England, Series of Studies on Atherosclerosis. Sponsor, Dr. Daniel Steinberg, NHI, Bldg. 10, Rm. 5N-309.

4/8—Dr. Costas Nicholas, Greece, Neurophysiology. Sponsor, Dr. G. C. Salmoiraghi, St. Elizabeths Hospital (NIMH), William A. White Bldg.



Conferring in their laboratory at NIH are the members of the DBS medical team which recently supervised the immunization against measles of 731,000 West African children. Left to right: Dr. Harry M. Meyer, Jr., Dr. Daniel D. Hostetler, and Barbara Bernheim.—Photo by Sam Silverman.

Survey Shows High Rate Of Cancer, Mongolism in Siblings of Leukemics

A National Cooperative Leukemia Survey coordinated by the Epidemiology Branch of the National Cancer Institute and supported in part by grants to participating institutions has shown that cancer and mongolism occur with unusual frequency among brothers and sisters of leukemic children.

Eight cancers, five of which were leukemias, occurred among the siblings of 519 childhood leukemia patients included in the survey. Only one—the number expected on the basis of national cancer mortality rates for children under 15 years of age—occurred among the siblings of children in a control group whose members were individually matched with the leukemia patients by area of residence, age, birth order, family size, and race.

12 Have Mongolism

Seven leukemic children and five non-leukemic siblings had mongolism. Fewer than two cases of mongolism would have been expected in either group. None occurred among the controls or their siblings.

Major congenital malformations other than mongolism were about twice as numerous among children who had leukemia as among their matched controls. No difference in this respect was expected or found between siblings of children with leukemia and siblings of controls.

In addition, the survey confirmed previous findings that the older the mother at the birth of her children, the higher the frequency of leukemia and mongolism. The mothers of leukemic children also reported having had more miscarriages than did mothers of the controls.

Relationship Noted

The results suggest a relationship between childhood leukemia and an array of diseases that are, or may be, associated with chromosomal abnormalities. Such abnormalities are known to occur in all cases of mongolism and certain other congenital malformations, in some cases of leukemia, and some of repeated miscarriage. Also the frequency of certain heritable chromosomal defects increases with advancing maternal age.

The findings of the survey were reported in the *New England Journal of Medicine* by Dr. Robert W. Miller, Chief of NCI's Epidemiology Branch, in collaboration with other NCI staff members and investigators from the 12 participating institutions.

For "Cancer Answers"—a new service sponsored by your American Cancer Society—dial SERVICE 7-8877, and listen to a physician's life-saving message.

NHI Coronary Disease Exhibit Features Free, On-the-Spot Electrocardiograms



Herbert H. Marks of the Metropolitan Life Insurance Co., New York, a participant at the recent Industrial Health Conference in Washington, D.C., relaxes in the reclining electrocardiogram chair at the NHI exhibit, "Epidemiology of Coronary Heart Disease." Hanford Moxley operates the ECG recorder. Observing are Linda-Ann Jenks and Dr. Joseph Lebauer, NHI physician from Framingham, Mass. The exhibit presents the latest research results from the NHI long-term epidemiological study at Framingham.—Photo by John Blamphin.

By John M. Blamphin

"Care to have your electrocardiogram taken, sir?"

The query was directed by Linda-Ann Jenks, exhibit specialist from the National Heart Institute's Heart Information Center, to a participant at the American Industrial Health Conference which met recently in Washington, D. C.

"Sit down right here, lean back and relax," she instructed, pointing to an inviting leather reclining chair.

Metal plates covered the end of each chair-arm, and two metal plates were attached to the leg rest. These were the ECG electrodes. Wires led from the chair to a small, streamlined ECG recorder, operated by Hanford E. Moxley, also an NHI exhibit specialist.

Less than two minutes later the man was having his ECG read by two NHI physicians, Dr. Joseph Lebauer and Dr. Abraham Kagan.

'Patient' Receives Tape

"You look just fine," said Dr. Kagan as he rolled up the tape and handed it to the "patient."

The free ECGs are part of the National Heart Institute's revised exhibit, "Epidemiology of Coronary Heart Disease." The exhibit presents the latest research findings from the Institute's long-term epidemiological study at Framingham, Mass.

By means of colorful graphs and charts, the exhibit points up the six coronary risk factors leading to a susceptibility to coronary heart disease.

These factors are: high cholesterol levels, high blood pressure, electrocardiogram abnormalities, excessive smoking, obesity, and decreased vital capacity.

The men who participated in the

Framingham study were between the ages of 40 and 59 when the study began. The results indicate that those who developed the six factors had twenty times greater risk of developing coronary heart disease than those with none of the factors.

Exhibit Is Popular

The exhibit, which has been presented at two meetings so far, has been extremely popular, according to Evelyn Trowbridge, Special Projects Officer of the Heart Information Center. Almost 800 electrocardiograms were taken and read at the American College of Cardiology meeting in Los Angeles. At the American Industrial Health Conference, the exhibit team took nearly 600 ECGs.

At each of the meetings the exhibit physicians found several with previously undetected heart abnormalities.

Other NHI personnel staffing the exhibit at the recent Industrial Health Conference were Miss Trowbridge and, from Framingham, Teresa Ceredona, R. N.

The Record Regrets Omission

The *Record* regrets that the identification of Wanda Burnett as a Technical Writing Consultant in the National Institute of Child Health and Human Development was inadvertently omitted from a picture caption in the April 11 issue.

PHS Announces Awards To Aid Health-Related Research and Training

Award of \$22,750,548 to 252 institutions in 40 States, the District of Columbia and Puerto Rico "for the flexible and discriminating general support of research and research training in disciplines of science relating to health" was announced April 18 by Dr. Luther L. Terry, Surgeon General of the Public Health Service.

These awards are specifically expected to cultivate scientific excellence and to improve the overall quality and strength of institutions in the conduct of health-related research and research training.

Greater Latitude Permitted

Great latitude is therefore permitted the qualifying institutions in determining the quality, content, emphasis and direction of such research activities. They are encouraged to capitalize on emerging opportunities, to explore new and unorthodox ideas, and to employ these funds for purposes which their judgment leads them to believe will contribute most effectively to the improvement of their total research capabilities.

Grants are made by the Surgeon General following recommendations by the appropriate council, to schools of medicine, dentistry, osteopathy, public health, pharmacy, nursing, veterinary medicine, hospitals and other nonprofit research organizations already heavily engaged in health-related research.

Grants announced are for the period January 1 through December 31, 1963. They constitute the major award each institution will receive for general support as computed by formula. An additional amount will be granted later in the year when certain variable factors are better known.

Single Girls Invited to Enter Kensington-Wheaton Contest

All NIH single girls between the ages of 18 and 28 are invited by the Kensington-Wheaton Junior Chamber of Commerce to enter its annual talent and beauty pageant. Entrants must be Maryland residents.

The pageant is an official Miss America preliminary, which gives the winner an opportunity to compete for the Miss Maryland title. The winner of the latter is eligible to enter the Miss America pageant held at Atlantic City during the Labor Day weekend.

For further information or applications, call the Kensington-Wheaton Jay Cees at 942-4484.

MICROSCOPISTS

(Continued from Page 1)

vancement of science.

"Science," he said, "is truly international in character, and scientists communicate best in meetings at which ideas can be freely advanced, and discussed with equal freedom.

"I feel sure," he added, "that this combination of the international aspect with the domestic interest of a learned society is a fruitful way of furthering scientific discussion, and that with the challenges to biology and exobiology we may expect far-reaching developments."

Dr. G. Burroughs Mider, NIH Director of Laboratories and Clinics and Honorary Chairman of the second plenary session, welcomed the members and guests on behalf of NIH and reviewed the history of the Society and early accomplishments in the field of microscopy.

Microscopists Praised

"The microscope," he said, "has been used in living biology by dedicated hands in the mainstream of biomedical activity. The owners of these hands were outstanding observers, capable of analyzing the present and future potential of their precious instrument."

Dr. V. E. Cosslett, President of the Society, in his presidential address at the dinner meeting, reviewed the history and achievements of the X-ray microscope. He described the projection X-ray microscope for whose design he was responsible, calling attention to its depth of focus and the consequent possibility of obtaining stereoscopic pictures.

He also gave an account of the X-ray micro-analyzer and suggested ways in which it could be applied to biological material.

President, Queen Send Messages

Dr. John Bunyan, Immediate Past President of the Society, read messages from President Kennedy and Queen Elizabeth II, and presented the certificate of Honorary Fellowship of the Society to Dr. Murray C. Brown, Chief of the NIH Clinical Center's Clinical and Professional Education Branch.

He also presented mounted medals of the Society to Dr. Ralph Knutti, Director of the National Heart Institute; Dr. Albert J. Dalton of the Laboratory of Viral Oncology, National Cancer Institute; Dr. George Z. Williams, Chief of the Clinical Pathology Department, Clinical Center; Dr. David B. Scott, Chief of the Laboratory of Histology and Pathology, National Institute of Dental Research; Dr. Herbert Berman, Secretary of the Microcirculatory Conference; Col.



PHS Surgeon General and Mrs. Luther L. Terry arriving at the presidential banquet of the Royal Microscopical Society at the Shoreham Hotel.

Frank M. Townsend, Director of the Armed Forces Institute of Pathology; Dr. Louise Warner, Georgetown University Medical Center; and Capt. Binning Chambers, United States Air Force.

The following condensed report of scientific presentations at the plenary sessions was written for the *Record* by R. Ross, Editor of the *Journal of the Royal Microscopical Society*.

The first plenary session was largely devoted to papers dealing with the use of the microscope in the study of living circulation.

Dr. Per Ingmar Branemark, of the University of Gothenburg, Sweden, discussed the results which could be obtained with the Leitz Intravital Microscope and illustrated his talk with film showing circulation in capillaries, arterioles and venules.

Dr. John Irwin, of the Massachusetts Eye and Ear Infirmary, Boston, illustrated the use of a modified Clark's chamber by showing the effect of PR 8 strain influenza type A virus and vaccinia virus on the tissues surrounding the capillaries.

Biomicroscopy Reviewed

Dr. Harold Harders, of the University of Hamburg, West Germany, reviewed the present state of clinical biomicroscopy and showed how the application of a cantharides blister gave access to the capillary circulation and enabled the "vascular spiders" of the skin, important in the diagnosis of liver disease, to be examined.

Prof. R. L. de C. H. Saunders, of the Department of Anatomy, Dalhousie University, Halifax, reviewed the various autographic techniques for the study of the pattern of the vascular system and its changes, particularly those resulting from cold damage, and showed the great value of the X-ray projection microscope of Cosslett-Nixon in this field.

Dr. Edward Bloch, Western Reserve University, showed slow-motion films of capillary circulation which demonstrated that the flow was not streamlined but closer to plug flow. He also reported on studies on oxygen exchange which was followed by observing changes in the absorption of monochromatic light by the red blood cells.

These contributions emphasized the way in which improved instrumentation was followed by greater biological insight.

The second session was a series of papers on ultraviolet microscopy from a panel under the chairmanship of Prof. T. Caspersson, of Karolinska Institute, Stockholm. Dr. George Z. Williams, Chief of the Clinical Center's Clinical Pathology Department, showed how the physical properties of the image converter and the vidicon enabled each to be used for a particular purpose. The sensitivity and high resolution of the vidicon permitted very short exposures of the tissue to ultraviolet light, enabling absorption measurements to be obtained with a minimum of change

Albert Einstein College Will Undertake Extensive Molecular Research Program

A far-reaching research program aimed at delineating biological structure and function at the molecular and submolecular level will be initiated this year at New York's Albert Einstein College of Medicine under a grant from the National Institutes of Health.

As announced by Dr. Luther L. Terry, Surgeon General of the Public Health Service, the grant provides \$288,600 for the first year of study. It will be administered by the National Institute of General Medical Sciences, which supports research and training in the basic biomedical sciences.

The program will be directed by Dr. Bernard L. Horecker, presently Chairman of the Department of Microbiology at New York University School of Medicine, who will head the newly established Department of Molecular Biology at Albert Einstein, beginning in July.

The program is aimed at studying the structure, function, and manufacture by the body of the large protein molecules which are the essential constituents of living

induced by exposure to the radiation.

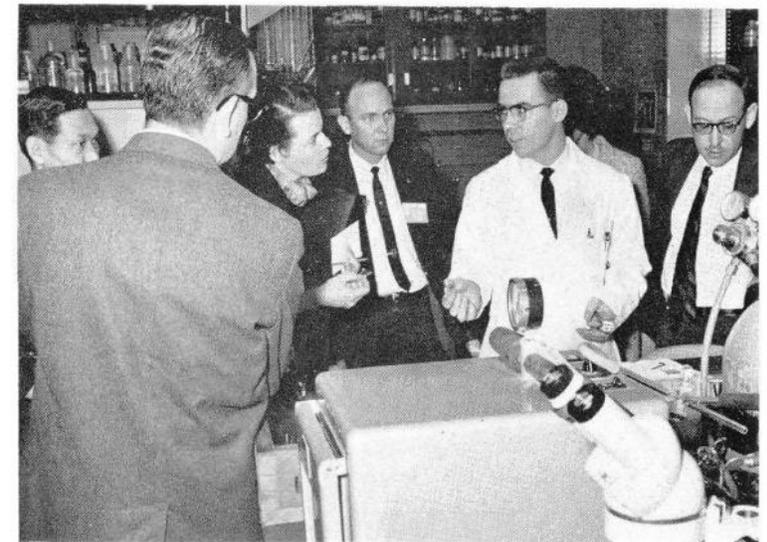
The image converter, on the other hand, was valuable for rapid searching and focusing.

A new type of vidicon with greater sensitivity than hitherto achieved was described by Dr. Robert Barer, of the University of Oxford.

Prof. P. O'B. Montgomery, of Southwestern University, described the apparatus for ultraviolet flying-spot microscopy, the use of which enables dynamic phenomena to be followed with minimal exposure of the tissue to ultraviolet radiation.

Dr. D. Wittekind of the Department of Medical Research, Deutsche Hoffman-La Roche A. G., Grensach, West Germany, reviewed the work done in fluorescence microscopy and drew attention to its value

(See *MICROSCOPISTS*, Page 6)



Dennis Clark, biologist in the Histology and Pathology Laboratory, NIDR (in white coat), shows a group from the Royal Microscopical Society meeting how glass is broken to make a microtome knife. The glass knives are needed for thin sectioning of tissues used in electron microscopy.

NIH Scientists Develop New Cooling Technique For Brain Research

NIH scientists have developed a cooling instrument and technique capable of blocking nerve conduction in isolated areas of the brain in unanesthetized animals.

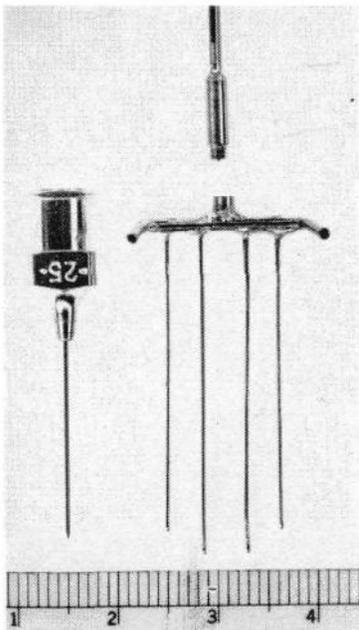
The instrument is described as a 4-tined cooling fork of hollow tubing. A cooling fluid (heptane) is circulated through the tubing when the instrument is implanted in the cat brain.

The animal is anesthetized when the fork is inserted, and is allowed to recover for a few days or a week. The cooling fluid is then circulated while the cat is unanesthetized. This rapidly produces temporary loss of postural and other reflexes and response to pain. The animal quickly recovers when the cooling process is stopped.

Results Reported

The investigators, who have performed over 40 such operations on six cats for periods up to 45 minutes, say there seems to be no residual neurological effect of either the implantation of the fork or the cooling.

The technique was developed by Dr. Robert Byck, of the National Institute of Mental Health Clinical Neuropharmacology Research Center, St. Elizabeths Hospital, and Paul Dirlík, of the Division of Research Services' Instrument Engineering and Development Branch, St. Elizabeths Hospital. The results are reported in *Science*.



Size of the 4-tined cooling fork may be gauged by comparison with the metric scale and the hypodermic needle at left.—Photo by Hamilton Poole.

NIH Spotlight Reveals:

Alfred Casper Came Up the Hard Way, Now Rated Top-Flight Animal Surgeon

By Tony Anastasi

His job title—"Supervisory Biologist"—gives little hint that Alfred G. T. Casper is numbered among the foremost experimental animal surgeons in the world.

Mr. Casper, 49, is supervisor of the National Heart Institute's experimental dog laboratory in the Clinical Endocrinology Branch.

Graduated with an A. B. degree in 1939 from Lincoln University, near Oxford, Pa., he lacked money at that time to study for an M. D. degree but received valuable experience in experimental surgery at the U. S. Marine Hospital in Baltimore. He worked there for 12 years before coming to NIH in 1953.

Works Long Hours

At the Marine Hospital, Mr. Casper worked many times from 7 a. m. until midnight, learning the intricate techniques of experimental surgery. He also studied phases of his work at nights and on weekends.

Praise from Mr. Casper's supervisors and associates and from visiting scientists has been plentiful during the past decade. These are a few of the comments recorded in his personnel file:

"Top-flight surgeon."

"Able to do successfully most anything on animals that can be done on a human."

"Constantly amazed at his energy, interest, imagination and skill."

"An excellent Administrator."

His boss, Dr. Frederic C. Bartter, Chief of the Clinical Endocrinology Branch, says, "Mr. Casper is an outstanding animal anatomist and physiologist, as well as a superb surgeon. He is among the world's foremost experimental animal surgeons."

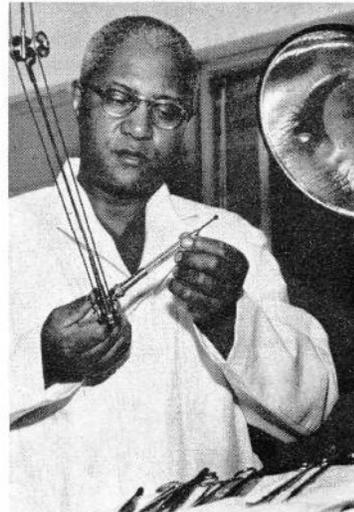
Accomplishments Cited

Another close associate, Dr. James O. Davis, of the Laboratory of Kidney and Electrolyte Metabolism, says, "Mr. Casper has shown very superior work far and beyond the call of duty for the past decade. He has been engaged primarily in experimental surgery in dogs and has performed several hundred major surgical operations.

"Mr. Casper helped develop a new method for production of experimental cardiac failure in dogs, namely, the technique of controlled progressive stenosis of the main pulmonary artery."

In 1958 Mr. Casper received an award for "very superior work performance far and beyond the call of duty." The award was based primarily upon "his contributions of intangible benefit to medical research."

The extraordinary ability of a top-flight surgeon, which Mr. Cas-



Mr. Casper prepares his surgical setup for removal of the anterior pituitary gland of an experimental animal.—Photo by Sam Silverman.

per has demonstrated consistently, is a necessity in preparing animals used in extremely complex studies.

This is not only because of the intricate nature of the studies but because the animals must often be surgically prepared to serve for extended periods of their life cycles, to simulate the developments of underlying chronic human diseases.

The procedures Mr. Casper has performed include open heart surgery, modifications of the aortic, pulmonic and mitral valves; blood vessel grafts, and various approaches to the pituitary, the hypothalamus and the adrenal glands.

Pituitary Approach Filmed

His approach to the pituitary gland through the roof of the mouth was considered significant enough to be filmed in a medical school for professional training purposes.

Aside from his outstanding performance in the several technical, scientific and administrative roles mentioned, Mr. Casper has contributed as an author to eight published scientific papers. His contributions are acknowledged in at least 50 others.

Most of these publications deal with research on organs of combined endocrine and nerve structure, such as the pituitary and hypothalamus in the brain.

As supervisor of his laboratory,

New Tabulation Lists PHS Research Grants In Fiscal Year 1962

The Public Health Service awarded 15,661 grants totaling \$388,561,165 for research projects in universities, medical schools, and other nonprofit institutions during the fiscal year ended June 30, 1962.

The grants, which supported studies aimed at major diseases and other public health problems as well as the discovery of fundamental knowledge in the biomedical sciences, were made to 1,211 institutions in the United States and to 341 in 49 other countries.

They were administered through two of the Service's bureaus, the National Institutes of Health and the Bureau of State Services, with the NIH Division of Research Grants serving as coordinator.

Detailed information on the nature, distribution, and amounts of these awards is given in a 536-page tabulation just issued, titled *Public Health Service Grants and Awards, Fiscal Year 1962, Part I—Research Projects*.

Series Available

The tabulation is one of a series of five covering the various forms of financial assistance available from the Public Health Service.

Others in the series list awards for training (Part II); all construction grants except those for waste treatment works (Part III); and health services formula and project grants (Part IV). Part V presents summary tables covering the data offered in Parts I to IV.

Parts I and IV are now available from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at \$1.50 and 25 cents per copy, respectively, with the others scheduled for printing shortly.

A limited supply of free copies is available from the Information Office, Division of Research Grants, National Institutes of Health, Bethesda 14, Md.

Mr. Casper is responsible for obtaining the animals, preparing them for research, supervising and training other lab technicians, preparing and maintaining the operating areas, and maintaining a colony of 12 to 18 dogs for experimental research.

He is charged with the care and maintenance of the same type of operating equipment that is used in operating rooms used for humans.

All of this is the fulfillment of a boyhood dream of Mr. Casper's.

"I was 12 years old," he said, "when my father died from mitral stenosis as a result of rheumatic heart disease. Ever since then I've wanted to do my share in the fight against heart disease."

MICROSCOPISTS

(Continued from Page 4)

in following dynamic phenomena in the cell.

Dr. George G. Rose, Hermann Hospital, Houston, Tex., showed a film which illustrated the potentialities of phase-contrast microscopy of living cells. The film included a sequence showing, in a particular strain of human malignant cells, rotation of the nuclei in the cytoplasm and the formation of multi-nucleate cells in which process nuclear division is immediately followed by almost complete cytokinesis, which later regresses.

Dr. Barer then discussed the use of the interference microscope in the study of living cells and showed how the usefulness of the instrument was very greatly increased by electronic integration, which enabled the mass of whole cells or larger organelles to be followed continuously.

Dr. Keith R. Porter, of Harvard, drew attention to the great difficulties which must be overcome before the electron microscope can be used to study living cells. He suggested that it would be wise at present to be content with investigations of freshly isolated cell fractions.

Improvements Noted

Autoradiography with the electron microscope, and especially the localization of triated-thymidine-labelled organic substances, was described by Prof. L. G. Caro, University of Geneva, Switzerland, who showed the effect of improved emulsions and preparatory techniques on the precision of the method.

The possibilities of gaining new knowledge of mineralization by the combined application of electron microscopy, micro-radiography and X-ray diffraction were illustrated by Dr. Marie U. Nysten, Laboratory of Histology and Pathology, National Institute of Dental Research, using tooth enamel as an example. She pointed out how the use of the other methods prevented misinterpretation of anomalous results from micro-radiography.

The next three papers dealt with histochemistry at the level of the electron microscope.

Prof. R. J. Barnett, Yale University, discussed the advances in enzyme localization made possible by improved fixatives, especially glutaraldehyde.

Dr. Michael Beer, Johns Hopkins University, described his studies on isolated molecules of DNA and the technique which he has developed for locating particular protein residues within the molecule by tagging with the uranyl ion.

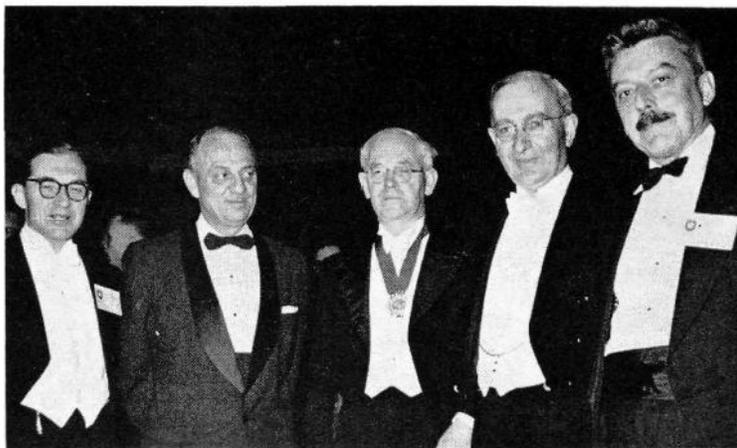
The localization of nucleic acids in a variety of plant and animal cells by various techniques was described by Dr. H. Swift, University of Chicago.

Staining Technique Described

The use of negative staining with phosphotungstic acid as a technique for gaining new morphological information at the molecular level was demonstrated by R. W. Horne, of the Agricultural Research Council Institute of Animal Physiology, Cambridge, England, who presented the results of a recent study of a human adeno-virus, which consists of tetrahedra, each formed by three L-shaped macromolecular units.

Prof. H. Fernandez-Moran, University of Chicago, described work on mitochondrial constituents. He showed that particles of recognizable morphology were capable of electron transfer, but lost this power when further broken down. These particles have been identified *in situ* in intact mitochondria. He also discussed the potentialities of a helium-cooled electron microscope with super-conducting lenses, now under construction.

Dr. E. D. Eanes, Laboratory of Histology and Pathology, National Institute of Dental Research, discussed the type of information which could be obtained by low-angle X-ray diffraction and showed how it revealed the shape and size of viruses and macro-molecular proteins but not their internal structure. A great advantage of the method was that it was applicable in air or liquids.



Pictured at the Royal Microscopical Society banquet are (left to right) R. Ross, Editor of the Journal of the RMS; Dr. Luther L. Terry, PHS Surgeon General; Dr. V. E. Cosslett, RMS President; Dr. F. J. Aumonier, Honorary Secretary of the RMS; and Dr. Murray C. Brown, Chief, CC Clinical and Professional Education Branch and Chairman of the American Committee on Arrangements.

New R&W Service Will Enable Members To Obtain Show, Sports Tickets Here

A new, comprehensive ticket service for its members was recently inaugurated by the Recreation and Welfare Association of NIH.

This service will enable members to purchase tickets here at NIH for all home games of the Washington Senators baseball team and other sporting events, movies, and plays.

Heretofore only a limited ticket service had been available for R&W members, primarily during the summer theater season at Shady Grove, Md.

Discounts for members will be obtained whenever possible, R&W representatives said. All tickets must be purchased at the R&W office in Building 31, Rm.1A18.

To help launch its new ticket

service, R&W gave away 10 tickets—two each to five lucky winners—to the 1963 baseball opener between the Senators and the Baltimore Orioles. The drawing was held in the office of Howard E. Kettl, Assistant Executive Officer of NIH, in the presence of Evelyn L. Attix, R&W President, and other R&W representatives.

Winners of the 10 free tickets were Jo Ann Stesney, NIAMD; Dr. David Johnson, NIAMD; Tillie W. Pollock, NIMH; Helen Small, DRS; and Rose Shreiber, NHI.

Tickets Available
Tickets now available to members include the Senators' home games, "How the West Was Won," the new Cinerama movie at the Uptown Theater; "Brecht on Brecht," a stage play at the Washington Theater Club; and "Milk and Honey," a musical on the adventures of Americans touring modern Israel. The latter, which ran on Broadway for 16 months, is at the National Theatre with the original Broadway cast.

Additional information about the new ticket service may be obtained from R&W Executive Secretary, Bess Grabiner, Ext. 3597.

Dr. Fitz Appointed to Council

Dr. Reginald H. Fitz, Professor of Medicine and Dean of the School of Medicine at the University of New Mexico, has been appointed by Dr. Luther L. Terry, Surgeon General of the U. S. Public Health Service, to serve on the National Advisory Dental Research Council. Dr. Fitz will serve on the council through September 1965.

Dr. Fitz will serve on the council through September 1965.

NCI Issues Monograph On Cancer Conference

The Proceedings of the First International Conference on the Biology of Cutaneous Cancer, held in Philadelphia in April 1962, have been published as NCI Monograph No. 10.

The 600-page volume contains more than three dozen reports on epidemiological, clinical, and experimental skin cancer investigations in the United States and several other countries.

The consensus of the conference was that, although skin cancer is the most common malignancy in man, there are many gaps in existing information about it.

A wide range of studies aimed at filling the gaps was recommended. The conferees urged, for example, that efforts be made to gather more data on variations in the incidence of skin cancer in relation to geographical, anthropological, and ethnic factors.

Further Investigation Needed

They also called for studies of the extent to which known causes of skin cancer, including ultraviolet radiation from the sun, account for its present incidence.

The full text of the recommendations appears in the monograph, which is available from the Superintendent of Documents, U. S. Government Printing Office, at \$4.50 per copy.

The conference was sponsored by the Skin and Cancer Hospital of the Temple University School of Medicine in Philadelphia and the Committee on Geographic Pathology of the International Union Against Cancer (UICC).

The co-chairmen were Dr. Frederick Urbach of the Skin and Cancer Hospital and Dr. Harold L. Stewart, Chief of NCI's Laboratory of Pathology.



Howard Kettl, NIH Assistant Executive Officer, in the presence of Evelyn Attix, R&W President, draws from the basket the first of the names of five lucky winners of two free tickets to the opening game of the baseball season.—Photo by Ed Hubbard.



Easter baskets, ready for distribution to Clinical Center children patients, receive final inspection by Sheila Roth, CC Nursing Department (left), and Kristen Peery, CC Patient Activities Section. Three participants in the normal volunteer program who have career assignments in the Patient Activities Section helped assemble individualized gift baskets for each patient according to age and diet guidelines.—Photo by Ed Hubbard.

NIDR POSTS

(Continued from Page 1)

clinical activities.

Dr. Driscoll has been a member of the Clinical Investigations Branch since 1954 and Branch Chief for the past year.

He received his D.D.S. degree from Loyola University of New Orleans in 1936 and joined the PHS Commissioned Corps in that year. Following a variety of assignments, including Assistant Chief of the Division of Dental



Dr. Stanley



Dr. Witkop

Resources, PHS, he came to the Dental Institute.

Dr. Driscoll's major research interest is physiology as it pertains to general anesthesia in the ambulatory dental patient.

He is a Diplomate of the American Board of Oral Surgery, a member of the Society of Oral Surgery, and a Fellow of the American College of Dentists.

Dr. Stanley, formerly Assistant Chief of the Clinical Investigations Branch, received his D.D.S. degree from the Baltimore College of Dental Surgery in 1948 and an M.S. from Georgetown University Graduate School in 1953.

He is an honorary professor of the University of San Carlos, Guatemala City, and was the 1962 re-

What's for Hanging? Art, That's What! But First, Submit Your Entries May 8

Now is the time for all NIH artists to step forward.

The 5th Annual NIH Art Exhibit, sponsored by the Recreation and Welfare Association of NIH, will be held May 12 through June 8 in the lobby of the Clinical Center.

As in previous years, the exhibit is open to all NIH employees and their immediate families. Participants are requested to submit their entries—paintings, graphic arts, sculptures—on Wednesday, May 8, the day before the judging.

Entries must be brought to the stage of the Clinical Center auditorium between the hours of 4:30 and 5:30 p. m. on that day.

Participants may submit up to three entries in each category for a fee of \$1 per entry. Prizes totaling \$300 will be awarded by the judges for the best entries.

Entry Blanks Available

Entry blanks and further information may be obtained from the R&W office in Building 31, Rm. 1A18, Ext. 3597. Entry blanks automatically will be sent to those who submitted entries the past two years.

Mrs. Luther L. Terry, wife of the PHS Surgeon General, will be Honorary Chairman of this year's art exhibit. The judges are Mrs. Adelyn Breeskin, Director of the Washington Gallery of Modern Art; and Prentiss Taylor and Robert Gates, both prominent artists and art instructors at American University.

The judges will select the entries to be displayed in the Clinical Center lobby.

recipient of the Gorgas Odontological Society Award. He is a Diplomate of the American Board of Oral Pathology.

Dr. Witkop has been Chief of the Human Genetics Section since its establishment in 1956. He received his D.D.S. degree from the University of Michigan in 1949 and an M.S. from that institution in 1954.

He has been a member of the Commissioned Corps since 1949 and of the Institute staff since 1950. He is a Diplomate of the American Board of Oral Pathology.

All three appointees hold the rank of Dental Director in the PHS Commissioned Corps. The appointments were effective Mar. 21.

Hamsters Meet May 16

The R&W Hamsters, NIH dramatic group, will hold its next meeting on Thursday, May 16, at 8 p. m. in Conference Room 4, A wing of Building 31.

All those interested in the theater arts are cordially invited to attend. Future plans of the Hamsters will be discussed along with other subjects of interest.

DYER LECTURE

(Continued from Page 1)

phage (viruses which attack bacteria) and bacterial genetics. As a leading investigator in viruses, he was instrumental in establishing the concept that a virus attacking a cell can work its way into the cell's hereditary mechanism and can become an added piece of genetic information.

In collaboration with Max Delbruck, Dr. Luria showed in 1943 that bacterial mutation is a sporadic, spontaneous event rather than a specific response to environmental conditions.

The significance of this contribution to modern genetics and to biological science in general is indicated by the fact that it is reprinted as the first article in Lederberg's collection of classic papers on microbial genetics.

Achievements Extensive

Of comparable significance is his discovery and explanation of multiplicity reactivation of bacteriophages (the successful initiation of infection through the cooperation of several virus particles ostensibly killed by ultraviolet radiation).

Also, in collaboration with R. Dulbecco, he has studied the important phenomenon of photoreactivation, or the repair by visible light of damage to the genetic material caused by ultraviolet radiation.

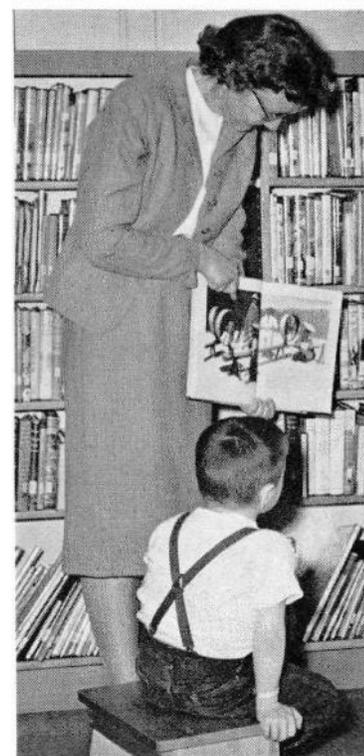
Dr. Luria has been instrumental in establishing the concept that virus infection is equivalent to the introduction of new, specific genetic elements into the host cell, and was one of the first to recognize the relevance of this concept to the understanding of the mechanism of malignant transformation of the mammalian cell.

Background Noted

Born in Turin, Italy, Dr. Luria attended the University of Turin where he received his M.D. degree summa cum laude in 1935. He was a specialist in radiology and medical physics at the University of Rome and a Research Fellow at the Curie Laboratory, Institute of Radium, in Paris, before coming to this country in 1940. He received his U. S. citizenship in 1947.

Dr. Luria is an editor of *Virology* and serves on the editorial advisory board for a number of professional journals. He is a Fellow of the American Association for the Advancement of Science and of the Society of Immunology, and holds memberships in numerous societies in his fields of interest.

STORY TIME AT CC



The Clinical Center Patients' Library is celebrating National Library Week (April 21-27) with an Open House for all patients from 6:30 to 8:30 p.m. today (April 23) and a Children's Story Hour tomorrow from 3:30 to 4 p.m. in the 14th floor solarium. Here Geneva Smith, CC Patients' Librarian, previews the Story Hour for "Mike" Radzilowski, a patient from Hamtramck, Mich.—Ed Hubbard, Photo.

NEW MOVIE

(Continued from Page 1)

tional Defense, the first in Africa and the most recent one, "Trinidad," in the West Indies. Both films were written and photographed by him.

The new orientation film is expected to be finished before the end of the year and will replace the one currently in use.

This present film has been highly successful and was made available in four languages. It has been shown to more than 60,000 visitors to the Clinical Center plus thousands more in the U. S. and throughout the world.

However, it is now becoming obsolete because of major developments that have taken place at NIH during the past five years; new Institutes and Divisions have been established and new trends in research have occurred.

The new film will reflect these changes and the role that NIH's intramural research activities currently play in scientific progress.

Medical Communication Topic of May Meeting Of Medical TV Council

The Council on Medical Television of the Institute for the Advancement of Medical Communication will hold its fifth annual meeting in the Clinical Center on Monday and Tuesday, May 6 and 7.

Featured during the 2-day meeting will be presentations and discussions on the achievements and future plans in the field of biomedical communication at the local, State, Federal, and international levels.

Prepared under the direction of Program Chairman, Dr. Murray C. Brown, Chief of the Clinical and Professional Education Branch, CC, the program will provide ample opportunity for audience participation throughout the meeting.

Registration May 8

Those planning to attend the meeting are requested to register on Monday, May 6, between the hours of 8:30 a. m. and 12 noon at the registration desk which will be located in the foyer of the Clinical Center auditorium.

At the Monday sessions Dr. Brown will visit, via video-tape, with Federal Communications Commission Chairman Newton Minnow and FCC Commissioner Robert E. Lee.

Dr. James M. Hundley, PHS Assistant Surgeon General for Operations, will discuss plans of the Public Health Service in the field of medical communications.

Reports on biomedical communication will be presented by the American Medical Association and the American Association of Medical Colleges.

Also scheduled for Monday are special nursing and dental section meetings.

Dr. Wilcox Chairs Meeting

The nursing section meeting, under the chairmanship of Dr. Jane Wilcox, Special Assistant for Nursing Research, Nursing Department, CC, will present a general orientation to closed circuit television, a symposium on television in nursing education, and a roundtable discussion on "Ways and Means for Nursing to make an Organized and Coordinated Effort in the Use of Television."

The dental section meeting will concern itself with a special preview of the report by Dr. Michael R. Romano of the University of Kentucky, on the recently conducted 21-month dental television survey.

Tuesday morning's session will be devoted to papers presented by representatives of various colleges



Staging a "holdup for health," three sombrero-hatted workers in the NIH National Health Agencies-Federal Service Joint Crusade Campaign hand over contributions collected during the semi-final roundup recently. Two special policemen of Armored Car Services, Inc., receive the collected contributions from the girls: Ruth Kahkonen, NIDR; Kathryn Gattie, NCI; and Peggy Sauer, NHI. The policemen are (l. to r.) C. H. Robinson and George Birch. Officer Birch displays the Help sign not from fear of the girls, he said, but as an appeal for contributions.—Photo by Sam Silverman.

Coatney Gives Lecture At Univ. of Michigan

Dr. G. Robert Coatney, Chief of the Laboratory of Parasite Chemotherapy, National Institute of Allergy and Infectious Diseases, delivered the second Pharmacy Alumni Lecture at the University of Michigan on April 4 and 5.

The lecture, in two parts, was titled "Malaria: Monkey, Mosquito, and Man" and "The Role of Drugs in Malaria Eradication." It dealt with areas of malaria research in which Dr. Coatney has been a key figure.

Discovery Accidental

The possibility of a monkey-mosquito-man cycle of malaria has not into intensive investigation in 1960 when Drs. Don Eyles, Coatney, and Morton Getz, all of NIAID, discovered through an accidental laboratory infection that the monkey parasite *Plasmodium cynomolgi bastianellii* produces an infection in man.

The existence of a monkey-mosquito-man cycle of malaria has not been demonstrated in nature.

Dr. Coatney also figured prominently in the testing of the experimental anti-malarial drug CI501, and reported in November 1962 that a single injection of the drug given volunteers nearly a year before was continuing to provide protection against malaria.

and universities conducting research projects in the continuing education programs. A panel of prominent medical educators also will evaluate the "Effectiveness of TV in Medical Education."

NHA-FSJC Drive Ends Friday, Establishes New Record of Participation

With the campaign ending next Friday, NIH has greater total percentages of participation in the National Health Agencies and Federal Service Joint Crusade Campaign than ever before—but there is still room for improvement.

NIH now has received 5,758 contributions to the National Health Agencies, and 5,543 to the Federal Service Joint Crusade, with percentages of 62.7 and 60.4, respectively.

The highest percentages in any of the four previous years was in 1961—58.6 percent and 57.3 percent. Last year's totals were 50.6 percent and 48.2 percent.

3 Units Reach 100 Percent

As the campaign nears its conclusion, three reporting units have reached 100 percent participation in both areas of the campaign. They are the Division of Research Facilities and Resources, the National Institute of Child Health and Human Development, and the NIH Federal Credit Union.

Only two of the 18 reporting units have less than 50 percent in the campaign. They are the National Institute of Allergy and Infectious Diseases and the National Institute of Mental Health.

Nine of the 18 units have bettered their final records of last year, and 13 are ahead of the NIH participation figure for 1961, which was the previous high year. Final results of the campaign will be re-

NINDB Finding Clarifies Efferent Fibers' Role In Hearing Function

By Ruth B. Scott

A particularly interesting interchange of basic research was displayed during a lecture on April 12, presented at the Clinical Center by the National Institute of Neurological Diseases and Blindness and the National Institute of Mental Health.

Dr. John E. Desmedt, who delivered the lecture, is Director of the Laboratory of Pathophysiology of the Nervous System, at the University of Brussels, Belgium. He conducts research supported in part by NINDB.

Dr. Desmedt showed how he used the anatomical evidence of Dr. Grant Rasmussen, NINDB, to clarify the functional role of the efferent fibers to the hearing organ. Dr. Rasmussen discovered the presence of an efferent nerve bundle from brain to the receptor organ.

Feed-back Demonstrated

This discovery demonstrated for the first time a feed-back mechanism of the hearing system, previously assumed to be a one-way conducting pathway from ear to brain.

Dr. Desmedt inserted microelectrodes into this efferent nerve bundle in the cat brain, and with even more difficulty into the pigeon brain. By stimulating the efferent nerves the Belgian scientist suppressed the response to incoming sound.

His evidence showed a marked decrease or sometimes a complete inhibition of the receptor to sound. Since the bundle is less than a millimeter in diameter, the stimulating electrode must be precisely positioned, Dr. Desmedt pointed out.

He also demonstrated some interesting effects of various drugs, applied directly to the Rasmussen bundle in the inner ear.

Although both Dr. Rasmussen's anatomical studies and Dr. Desmedt's related physiological studies are basic to the understanding of how we hear, they are pointing the way to clinical applications.

ported in the next issue of the *Record*.

Commenting on the results, Dr. Ralph E. Knutti, National Heart Institute Director and NIH Campaign Chairman, said, "Everyone participating in this year's campaign is to be congratulated. This final week of the campaign gives those who haven't already contributed a chance to reconsider.

"I sincerely hope that these people will follow the example of so many at NIH and make a contribution, not because others have, but because they believe that these agencies and organizations are worthy of our support."