

## NIH Researchers To Visit Moscow; 4 Speak Russian

Four of the contingent of scientists from NIH attending an international scientific meeting in the Soviet Union next month will present their papers in Russian.

The four NIH investigators, who have either studied Russian recently or have a Russian-speaking family background, are Drs. Simon Black and Leo Levenbook of the Arthritis and Metabolic Diseases Institute, Dr. Richard W. Hendler of the Heart Institute, and Dr. Isadore Zipkin of the Dental Institute.

### Several Hundred Invited

They are part of a group of several hundred American biochemists invited to participate in the Fifth International Congress on Biochemistry in Moscow, August 10-16.

Travel costs for some members of the NIH delegation are being paid in part by the Federal government and in part by professional scientific groups and similar organizations sponsoring the scientists' attendance at the Congress. In other cases the scientists, a number of whom are presently on annual or sabbati-

(See *RESEARCHERS*, Page 2)

## Gas Sterilization Is Effective Here; Application to Phones Is NIH 'First'

Although the Clinical Center has relatively few patients with highly infectious diseases, sterilization of all telephones used by its patients is now standard practice. This recent development is an outgrowth here of gas sterilization to heat-sensitive hospital items.

## NIAID Establishes Science Assembly

An Assembly of Scientists, the second to be formed here, has been established by the scientific staff of the National Institute of Allergy and Infectious Diseases.

Its announced purpose is "to develop and promote an atmosphere in the Institute conducive to professional excellence and scientific endeavor."

The first Assembly of Scientists was organized at NIH in late 1959 by scientists of the National Institute of Mental Health and the National Institute of Neurological Diseases and Blindness. (*NIH Record*, Nov. 10, 1959.)

The new Assembly, as stated in its constitution, specifically aims "to serve as a general forum for discussions, as a means to formulate and express opinion, and as an

(See *ASSEMBLY*, Page 2)

It began in 1959 when James G. Hawkes, Head of the Communications Section, Office Services Branch, requested the Division of Research Services to develop a practical means of telephone sterilization, and the Chesapeake and Potomac Telephone Company provided the surplus telephones necessary for this purpose.

### Phones Damaged

Although exposure to gaseous ethylene oxide for two to four hours at 130° F. was proving effective for numerous heat-sensitive hospital items, this treatment played havoc with the even more heat-sensitive telephone instruments. They were sterile but no longer usable.

The only end products of this work, in the words of Mr. Hawkes, were "some mighty odd-shaped telephones."

About this time, research workers in other areas noted that decontamination of heat-sensitive materials was also possible at even lower temperatures—by merely extending the time of exposure to the gas.

### Steel Drum Used

They suggested that a gastight 55-gallon steel drum could provide a satisfactory sterilization chamber—inexpensive and readily available.

This simple, effective equipment is now used for telephone sterilization in the Clinical Center.

Plug-in telephones are removed from patient areas, wrapped in individual polyethylene plastic bags, and placed in a steel drum for continuous exposure under slight pressure at room temperature: 70° to 90° F.

Forty-eight hours later the phones are removed, completely decontaminated and undamaged. They remain in their plastic casing,

(See *STERILIZATION*, Page 3)

## Study Determines Osteoarthritis Is Genetic Disorder

The first definite experimental proof that osteoarthritis is under hereditary control has been provided by an exhaustive study by investigators at the National Institute of Arthritis and Metabolic Diseases and the National Cancer Institute.

Drs. Leon Sokoloff, Richard S. Yamamoto, Lyman B. Crittenden and George E. Jay, Jr., found in a study of nearly 1,700 mice that osteoarthritis was under hereditary control, behaving as a recessive characteristic.

### Single Gene Responsible

The group reported that a single gene may have accounted for much of the arthritis in these animals, although other genes and environmental factors also contributed to the condition.

Osteoarthritis, or degenerative joint disease, has long been held to be a wear-and-tear disease inevitably present in old age. Obesity is commonly believed to aggravate the destruction of the joints in this condition.

The NIAMD and NCI scientists confirmed their earlier findings in

(See *OSTEOARTHRITIS*, Page 5)

## Two New Buildings Planned for NIH Will House NCI, NIMH and NINDB

Construction of two new buildings on the NIH reservation is planned to begin in fiscal year 1963.

Both will be laboratory-office buildings. One will house the National Cancer Institute. The other will be shared by the National Institute of Mental Health and the National Institute of Neurological Diseases and Blindness.

The new structures will be located on Old Georgetown Road, south of Center Drive in the general vicinity of the Biologics Standards and Dental Research buildings.

The new Cancer building will have a cafeteria that will serve the personnel of all four buildings.

Contract for preliminary draw-

ings for both buildings was awarded July 3 by the General Services Administration to Smith, Hinchman and Grylls Associates, Inc., of Detroit.

Planning money for both buildings was included in the funds appropriated for the 1961 fiscal year. The estimated cost of construction, including utilities, is approximately \$12 million for each building.

Engineers in the Research Facilities Planning Branch, Division of Research Services, will represent the interests of the Institutes in coordinating these new construction projects. They are Lawrence F. Gaffney, Assistant Chief of the Branch, and George O. Fellers and Richard E. Koester, project engineers.

## Mexican Parasitologists Honor Dr. von Brand

Dr. Theodor von Brand, Head of the Physiology Section of the NIAID Laboratory of Parasitic



Dr. von Brand

Diseases, has been given Honorary Membership in the Sociedad Mexicana de Parasitología in recognition of his outstanding research in parasitology.

An NIH staff member since 1946, Dr. von Brand is internationally known for his work on fundamental physiological and biochemical studies on parasites, intermediate hosts, and parasitized animals.

# the NIH Record

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## PERSONNEL' TO PERSON

The Civil Service Commission has informed Federal agencies that the Government's job application form, Standard Form 57, has been revised for improved format and clarity of information requested from the applicant.

The revised form is the product of interagency consultation carried out by a special CSC interbureau committee, and reflects individual consideration of more than 200 employee suggestions received by the Commission. The last revision to the form was in May 1954.

As a result of employee suggestions which were adopted, CSC has recommended a small number of cash awards. Many of the 200 suggestions were essentially the same and related to the same items.

Changes in the revised form include more specific instructions for its preparation. Examination Announcement Number, Major Field of Study (education), and Social Security Number are new items which have been added.

Availability information has been expanded to include information concerning availability for less than full-time employment, and questions relating to military service, veteran preference, discharges from employment, and arrests have been simplified and clarified.

Agencies have been urged to exhaust their existing supplies of Form 57 before using the new revision.

### Dr. Milton Wittman, NIMH, Elected V. P. of N. A. S. W.

Dr. Milton Wittman, Training Specialist in Social Work of NIMH's Training Branch, has been elected to the office of First Vice-President of the National Association of Social Workers, Inc. Dr. Wittman's term of office is from July 1 of this year through June 30, 1963.

## ASSEMBLY

(Continued from Page 1)

instrument to render advice and to take action pursuant to the general objectives of the scientists of NIAID."

Membership in the Assembly is open to all scientists working in NIAID laboratories. They must have the rank or equivalent of GS-11 (Civil Service) or Assistant Grade (Commissioned Corps) or higher, in positions up to and including Laboratory Chief.

Of 72 scientists presently eligible to join the group, 69 applied for memberships and have been accepted.

### Meetings Scheduled

Regular semi-annual meetings of the NIAID group are planned for the spring and fall of each year.

Officers of the new Assembly, elected in June, were Dr. Arthur K. Saz, Laboratory of Infectious Diseases, President; Dr. Carl F. T. Mattern, Laboratory of Biology of Viruses, President-elect; and Jane L. Showacre, Laboratory of Biology of Viruses, Secretary.

Officers will serve for one year. The President, who becomes Past President following his term of office, will also serve as a Council member for one year.

### Councilors Elected

Members of the six-member Board of Councilors, also elected in June, were Dr. Sheldon Dray, Laboratory of Immunology; Dr. Leon Levintow and Dr. Hilton B. Levy, Laboratory of Biology of Viruses; Dr. Norman B. McCullough, Laboratory of Bacterial Diseases; Dr. Louis J. Olivier, Laboratory of Parasitic Diseases; and Dr. Walter L. Newton, Laboratory of Germfree Animal Research.

Three of the Councilors will serve for two years and three for one year.

Beginning in 1962, three new Councilors will be elected each year and will serve for two-year terms.

## NCI's Improved Micropipettor Speeds Fluid Sampling for Immunology Tests

Scientists in the Radiation Branch of the National Cancer Institute have developed a mechanical pipetting machine for rapidly dispensing small, varying quantities of physiological fluids.

This machine, known as the Mencken micropipettor, was designed and constructed here by Instrument Maker Carl Mencken at the request of Drs. Falconer Smith and Laurence Draper of the Radiation Branch.

Its keyboard arrangement enables a laboratory worker to select the required volume quickly and deliver an amount accurate to the nearest one-hundredth of a cubic centimeter. An intake tube placed directly in a reservoir permits repeated sampling.

The Mencken micropipettor was

developed specifically for use in immunological tests in the course of which several hundred test tubes of serum receive buffer solution in varying volumes up to one cubic centimeter.

The use of this instrument enables Radiation Branch scientists to complete a series of tests with less chance of error and in half the time formerly required when pipetting by hand.

Commercially available pipetting machines accurately deliver the same quantity repeatedly but require too much time for recalibration whenever a new volume is needed, Dr. Smith said.

Scientists who have used the Mencken micropipettor believe it could be useful in a variety of laboratory and clinical analyses.



The keyboard arrangement of this mechanical pipetting machine enables the operator to quickly select the required volume of physiological fluid, which is then delivered to the nearest one-hundredth of a cubic centimeter. An intake tube (left) placed in a reservoir permits repeated sampling. The machine was designed and constructed by Carl Mencken, instrument maker of the Radiation Branch, NCI.

## RESEARCHERS

(Continued from Page 1)

cal leave or stationed abroad, will pay their own trip expenses.

Scientists from some 40 countries are expected to attend the Congress which is being held under the auspices of the International Union of Biochemistry. The Union is a world-wide organization composed of national professional societies in the field of biochemistry.

Members of the NIH group will present a total of 37 papers at the meeting.

### 8 Symposia Planned

All arrangements for the 7-day Congress are being handled by the Biochemical Society of the USSR. Meeting headquarters will be located at Moscow University.

The program will consist of plenary sessions, symposia, and sectional sessions.

The eight symposia are organized under the following topics: biopolymers, their molecular structure and biochemical activity; functional biochemistry of cell structures; evolutionary biochemistry; general mechanisms of action and specific

## Dr. Saz Renews Work At Oceanographic Lab

Dr. Arthur K. Saz, Assistant Chief of the Laboratory of Infectious Diseases, NIAID, returned to Woods Hole, Mass., in late June for a second summer of work at the Woods Hole Oceanographic Institution. He will return to NIH in September.

Dr. Saz and his collaborators at the Institution are studying factors in sea water responsible for killing penicillin-sensitive and penicillin-resistant staphylococci.

inhibition of enzymes; phosphorylating and non-phosphorylating pathways of oxidation; mechanism of photosynthesis; principal mechanisms and pathways of biosynthesis; and biochemical principles of the food industry.

Biochemists will present the most recent results of their investigations in various research areas at 27 sectional sessions. Scientific apparatus, including instrumentation and other equipment, reagents, and literature related to biochemistry will be on display.

## STERILIZATION

(Continued from Page 1)

and after airing for a 12-hour period are ready for re-issue to patients.

The cost of sterilization is currently about four cents per phone. At any given time, 90 to 115 instruments are in use, and 12 to 20 plastic-wrapped sterile sets are in reserve.

More than 400 telephones have been successfully treated by this method since it was introduced in June 1960.

### Termed a Milestone

The Chesapeake and Potomac Telephone Company considers the sterilization achievements here at NIH another milestone in its efforts to increase customer services.

Previously, the handset telephone, with its heat-sensitive plastic case, internal wiring, wax-embedded electronic components, and insulating materials, had resisted all attempts at successful sterilization with steam, hot air, or disinfectants.

### Sterilizes Hospital Items

The gas sterilization technique is being used here not only for patients' telephones but as an ideal supplementary method for sterilizing a great variety of heat-sensitive items used in the patient-care areas of the Clinical Center.

These include plastic catheters, surgical rubber gloves, heart-lung machine components, hi-fi records, library books, children's toys, games and even—mousetraps.

The new method involves the use of ethylene oxide, a gas rapidly diffusible and therefore capable of permeating many materials formerly considered airtight, such as cotton wool, powders of all types, and closed books.

### Gas Is 'Tamed'

Gaseous ethylene oxide in its pure state is highly explosive when mixed with air, but it can be "tamed" or rendered nonflammable by mixing it with carbon dioxide (CO<sub>2</sub>), or with Freon, the common refrigerating gas.

No longer dangerous or hazardous, a mixture of one part of ethylene oxide with eight parts CO<sub>2</sub>, or Freon, is still lethal to microbes at temperatures ranging from 70° to 130° F., or at approximately one-quarter to one-half the temperature normally required when steam or hot air is used for sterilization.

Ethylene oxide was first described in 1859, but not until 1929 did its potential anti-bacterial properties become apparent. For the next 15 years the gas was used chiefly to reduce the bacterial content of the spices used for the flavoring or seasoning of meat products.

In the 1950's, various workers successfully utilized gaseous ethylene oxide for the sterilization of contaminated clothing, laboratory



John W. Peters, telecommunications specialist with the Communications Section, OSB (left), lifts a sterilized telephone, sealed in its plastic bag, from the gas sterilization tank. Louis Wood, lab technician of the Sanitary Engineering Branch, holds the lid. The one-shot bottle of gaseous ethylene oxide is visible on the side of the renovated 55-gallon drum.—Photo by Lee Bragg.



Clinical Center Staff Pharmacist James Snowden guides tray of hospital items into gas sterilizer chamber. Items visible on the top shelf are individually packaged catheters and polyethylene tubing. Children's toys and books in polyethylene bags are on lower shelf. This sterilizer and the small one to the left are operated by the Clinical Center Pharmacy Department in Central Surgical Supply.—Photo by Sam Silverman.

equipment, and heat-sensitive hospital items. Interest in the potential applications of ethylene oxide for a broader sterilization range is continuing in many fields.

The entire area of commercial application offers widespread possibilities. One of the professional journals recently reported that sporting promoters are interested in sterilizing rental shoe skates and bathing suits between each use. Several automatic-control gas sterilizers are already in commercial production.

Those who have been instru-

mental in introducing gas sterilization to NIH—members of the Sanitary Engineering Branch, Division of Research Services—foresee continued extensive application of the new technique in hospitals and scientific and commercial institutions.

The Sanitary Engineering Branch conducted extensive mechanical, bacteriological, and physical performance tests with the gas over an 18 months' period before accepting it as a supplementary method of disinfection. The results of this study will appear shortly as a Public Health Monograph.

## New Method Developed By NCI for Cell Drying

A simple, rapid method of drying cells for microscopic study has been developed by scientists of the National Cancer Institute. The new method permits indefinite storage of dried cells and eliminates chemical treatment, which may disturb vital details of cell structure and function.

A report on the work, prepared by Henry C. Orr, Dr. Morris Belkin, and Walter G. Hardy, all of NCI, and Dr. Ezio Merler, formerly of NCI and now with the Harvard Medical School, was presented June 8 at the Syverton Memorial Symposium and the 12th annual meeting of the Tissue Culture Association in Detroit.

In the new method, cells to be treated, or fixed, are put into jars in a chamber containing a small amount of phosphorus pentoxide. The chemical's absorbing action, plus evacuation of air from the chamber, rapidly removes water from, and dries, the cells.

### Cells Dyed

Other methods combine freezing and drying, or require the application of chemical hardening agents. Regardless of the method used, cells are then dyed to make certain features stand out.

In general, the appearance of the dried cells in this study compared favorably with that of chemically fixed cells, structural details being well preserved. Structures composed of fat or carbohydrates could be seen clearly when dyed; protein elements could not be distinguished, indicating a poor response to dyes. However, treatment of the cells after dehydration with a suitable chemical fixing agent made the proteins visible, demonstrating that drying had not destroyed them.

The addition of a small amount of distilled water to the cells markedly improved the visibility of many components.

## Dr. Endicott Announces Branch Reorganization

Dr. Kenneth M. Endicott, Director of the National Cancer Institute, has announced the following reorganization of the Institute's General Medicine Branch.

A Medicine Branch has been established with Dr. Emil Frei, III, as Chief, and Dr. David P. Rall, Assistant Chief. It includes a Chemotherapy Service (Dr. Frei, Head) and a Clinical Pharmacology and Experimental Therapeutics Service (Dr. Rall, Head).

A Dermatology Branch has been established with Dr. Eugene J. Van Scott as Chief.

These Branches are under the direction of Dr. Nathaniel I. Berlin, Clinical Director, who also heads the Metabolism Service.

## Dr. Sherman Appointed NINDB Assoc. Dir. of Extramural Research

Appointment of Dr. John F. Sherman, Deputy Chief of Extramural Programs, NIAMD, as Associate Director for Extramural Research, NINDB, was announced last week by PHS Surgeon General Terry. The appointment was effective July 1.

In his new position, Dr. Sherman will be responsible for the research and training grant programs of the Institute. He will also serve in a major advisory role to Dr. Richard L. Masland, NINDB Director, on the Institute's total program.

### Joins NIH in 1953

Dr. Sherman came to NIH in 1953 as a research pharmacologist in the Laboratory of Tropical Diseases, NIAID. In 1956 he was appointed Assistant to the Chief of Extramural Programs, NIAMD, and the following year was made Assistant Chief. In 1958 he became Deputy Chief.

A native of Oneonta, N. Y., Dr. Sherman received a B. S. degree from the Union University College of Pharmacy, Albany, N. Y., in 1949, and a Ph. D. degree from Yale in 1953.

He is the author and co-author of numerous articles on pharmacology in medical and scientific journals and encyclopedias.

## Dr. Kreshover Receives Honorary D.Sc. Degree

Dr. Seymour J. Kreshover, Associate Director in Charge of Research, National Institute of Dental Research, was awarded the honorary Doctor of Science degree from the University of Buffalo at its commencement ceremony in June.

Dr. Kreshover last year received the Tufts University award for leadership in oral pathology.

### Teaches in Virginia

He has held his present position with the Dental Institute since 1956. Prior to that he was Professor of Oral Pathology and Diagnosis and Director of Dental Research at the Medical College of Virginia. He is President-elect of the International Association for Dental Research.

Dr. Kreshover received the degree of D. D. S. from the University of Pennsylvania School of Dentistry in 1938, the Ph. D. in clinical medicine and pathology from Yale University in 1942, and the M. D. degree from New York University School of Medicine in 1949.

He is a Diplomate of the American Board of Oral Medicine, a

## NIAMD EXHIBIT WINS AMA AWARD



At the recent AMA meeting in New York, this exhibit on cystic fibrosis won a "first prize" Certificate of Merit for Drs. Paul A. di Sant'Agnese and Lewis E. Gibson of NIAMD and Dr. Kenneth Landauer, National Cystic Fibrosis Research Foundation. An exhibit on dietary calcium in osteoporosis also won an honorable mention for Drs. G. Donald Whedon and Leo Lutwak of NIAMD. Dr. Benjamin T. Burton, Special Assistant to the Director of NIAMD, collaborating with George Marsden and Ronald B. Winterrowd of the Medical Arts Section, DRS, worked closely with the investigators in designing, assembling, and displaying the exhibits.

## Dr. Edgcomb in Russia For 6 Months Study

Dr. John H. Edgcomb, Pathologic Anatomy Branch, National Cancer Institute, left June 23 for a stay of approximately six months in Russia. He will be on temporary PHS duty as a participant in the US-USSR scientific and cultural exchange program.

Dr. Edgcomb is the first cancer investigator to go to Russia for long-term collaborative studies under terms of the agreement signed November 21, 1959.

He will be assigned to the Institute of Experimental Pathology and Therapy of Cancer, Academy of Medical Sciences USSR, Moscow. Prof. Nikolai N. Blokhin, Director of the Institute, was head of the group of Russian cancer specialists who visited the National Cancer Institute last fall.

Dr. Edgcomb is particularly interested in studying pathological material from patients treated with Sarcocystis and newer nitrogen mustard derivatives developed in the Soviet Union.

He also hopes to study the pathological anatomy of the diseases of a Russian breed of rodent, the steppe lemming, recently introduced into cancer research.

He will visit laboratories and clinics in Leningrad and Sukhumi as well as Moscow.

member of the Committee on Dentistry and a former member of the Committee on Pathology, National Research Council. He is also a Consultant to the American Dental Association's Council on Dental Research and Editor of Dental Abstracts and has served on several Public Health Service research councils and committees.

## NIAID Scientists Isolate Thymic Agent in Mice

Recovery of a new mouse virus by National Institute of Allergy and Infectious Diseases scientists has been reported in the Journal of Experimental Medicine. The Institute investigators are Dr. Wallace P. Rowe and Worth I. Capps.

The agent induces a non-fatal disease in infant mice, characterized by acute massive necrosis in the medulla and cortex of the thymus gland, granulomatous reaction, and subsequent restoration of essentially normal structure with scarring. Intranuclear inclusion bodies are produced in thymocytes in the early stage of the infection.

The thymic agent was first encountered as an incidental finding during a blind passage series for another agent in General Purpose strain mice. Since that series the thymic agent has been carried through 39 serial newborn mouse passages with induction of macroscopic thymic necrosis in 744 (96 percent) of 807 passage mice examined at six to eight days, and in 72 of 75 examined at 14 to 20 days.

Evidence that the agent is a virus includes its ability to pass through bacteria-tight filters, inability to grow on bacteriologic media, resistance to antibiotics, and the presence of nuclear and cytoplasmic karyoannular particles in electron micrographs of acutely infected thymuses. Also, production of intranuclear inclusion bodies strongly indicates a virus.

The type of disease and of inclusion body, host range, and ether sensitivity of the thymic agent effectively distinguishes the agent from other known mouse viruses. Thymuses of infant mice inocu-

## Cancer Scientists Visit Russia on Exchange Mission

Dr. Kenneth M. Endicott, Director of the National Cancer Institute, and Drs. Howard B. Andervont and Roy Hertz, NCI staff members, returned June 10 from a two weeks' trip to Russia as members of a six-man cancer mission.

They visited Soviet cancer institutions, returning the visits made last fall to NCI and Sloan-Kettering Institute for Cancer Research by a group of Russian scientists.

Other members of the U. S. mission were Drs. Henry T. Randall, Chester Stock, and Gilbert Dalldorf, all of Sloan-Kettering.

### Visits Leningrad

The itinerary of Dr. Endicott and his associates included, in Moscow, the Institute for Experimental and Clinical Oncology, the State Institute of Oncology im. P.A. Gertzen, and the Gamaleya Institute of Microbiology and Epidemiology. In Leningrad the group visited the Institute for Oncology.

The Leningrad Institute and the Institute for Experimental and Clinical Oncology in Moscow are institutes of the Academy of Medical Sciences and are primarily research organizations. Cancer institutions under the USSR Ministry of Health are primarily treatment centers.

The Gertzen Institute in Moscow is responsible for the development of a network of such centers, each to serve a population of approximately one to one and one-half million.

### Polio Research Observed

Dr. Randall also visited the Institute of Thoracic Surgery, Moscow, where he observed Russian surgeons using recent adaptations of their vascular stapling machines.

Drs. Dalldorf and Andervont visited the Institute for Poliomyelitis in Moscow where they found that the Russians are producing and distributing to their investigators a variety of viral diagnostic reagents.

Both this visit of American cancer specialists to the USSR and the visit last fall of Russian scientists to this country were arranged in accordance with the agreement between the United States and the USSR for cooperation in exchanges in scientific, technical, and cultural fields during 1960-61.

lated with polyoma virus, mouse salivary gland virus, K virus, mouse adenovirus, types 2 and 3, have been examined grossly and microscopically. In no instance have similar lesions been seen.

Serologic comparison also indicated the distinctness of the virus.

# Future Scientists Learn While Aiding NIH Through COSTEP

## 25 Med Schools, Colleges Represented; NIH Group Is Fourth of PHS Total

By Mary-Helen Emmons

Forty-three college men and women, primarily graduate students, who plan future scientific careers are making valuable additions to their professional knowledge by working this summer in the laboratories and offices of nine NIH Institutes and Divisions.

These young people are among the 170 students serving as Reserve Officers in the PHS-wide Commissioned Officer Student Training and Extern Program, known familiarly as COSTEP. In the NIH group alone, over 25 medical schools and colleges are represented.

While here they will work directly with outstanding scientists to obtain first-hand knowledge of the

latest research techniques and developments. They will attend special COSTEP seminars, participate in clinical rounds as observers, and attend scientific meetings appropriate to their work.

The Public Health Service has employed students during the summer months since 1948, but it was not until 1957 that a career development program was formalized as COSTEP.

The program offers professional growth assignments to advanced students in several fields.

Medical students who have completed their second or third year are eligible, and in rare cases exceptionally well qualified students who have completed their first year of medicine may be considered eligible.

### Others Admitted

Others currently admitted to COSTEP in accordance with PHS needs are full-time Ph.D. candidates in the sciences, registered nurses enrolled in baccalaureate programs, second and third year dental students, second and third year veterinary medicine students, and engineering students and physics majors with two years of study completed.

Applicants called to active duty in COSTEP receive the pay and allowances of Junior Assistant Health Services Officer, a rank equivalent to Army 2d lieutenant or Navy ensign. Tours of duty are usually about 90 days and may not exceed 120 in any one fiscal year.

### May Remain in CR

Students who perform satisfactorily may remain in the Commissioned Reserve on inactive duty pending completion of their professional education. Ph.D. candidates are an exception to this rule. Their commissions are terminated at the end of each tour of duty. This group may reapply for subsequent COSTEP assignments and is encouraged to do so.

Since 1957 NIH, on a strictly competitive basis, has appointed 14 former COSTEP participants to serve in the Clinical and Research Training programs conducted here.

COSTEP at the National Institutes of Health is under the direction of the Clinical and Professional Education Branch, CC.

## OSTEOARTHRITIS

(Continued from Page 1)

mice of no relationship between obesity and the genetic factors which govern the arthritis in experimental animals. These findings suggest that in osteoarthritis scientists are apparently dealing with subtle biologic factors, not merely a weight factor as long supposed.

The study began with the observation that certain strains of inbred mice develop osteoarthritis of the knees substantially like human degenerative joint disease.

Ninety-eight percent of all males of this strain (STR/IN), developed at Bethesda, have severe arthritis of the knees by 16 months of age (middle age for these animals).

### Second Strain Studied

A second strain (A/LN), raised under the same conditions, never showed arthritis in the eight years of the study.

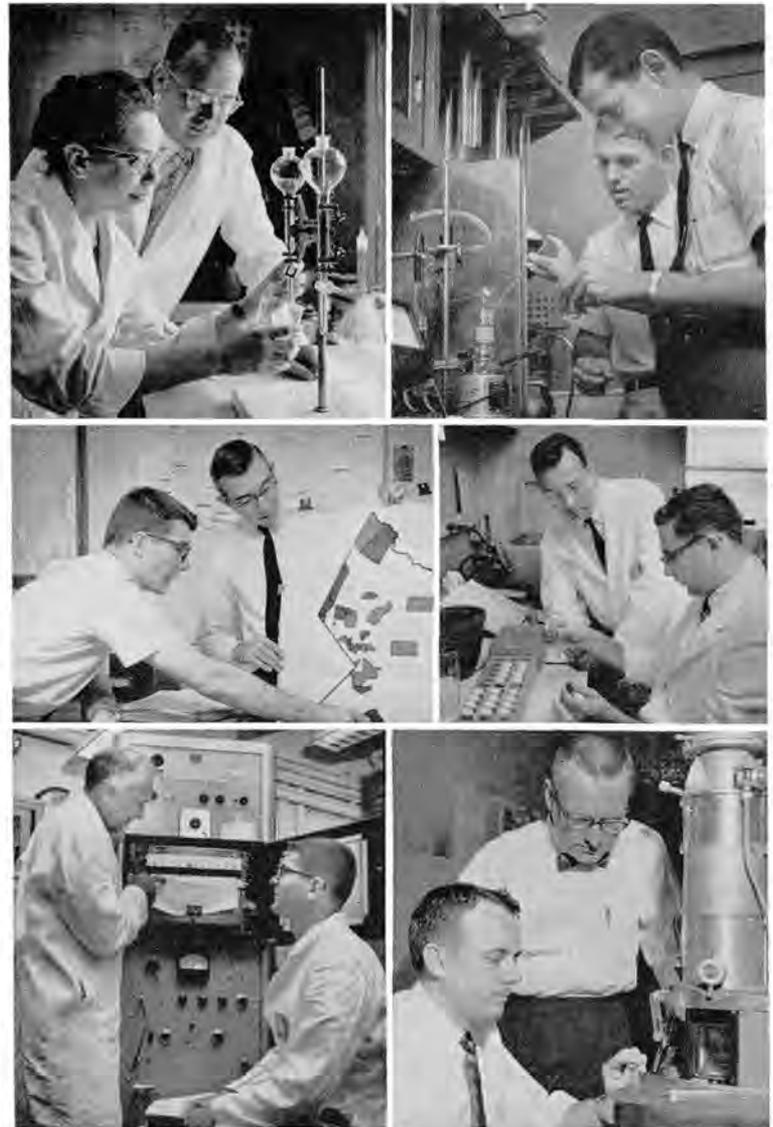
Crossbreeding and backcrossing of the two strains and calculation of the frequency and severity of arthritis in the progeny showed that the osteoarthritis was under genetic influence.

In addition to joint changes, the genetics of anemia, liver tumors, kidney disease, pulmonary tumors, configuration of the sacrum, and many other features were systematically studied. None showed any correlation with the degenerative joint disease.

### Hope Implied

The results of this study imply the hope that the genetic processes controlling osteoarthritis can be characterized and preventive measures worked out to control this frequent and disabling rheumatic disorder in humans.

The work was reported at the recent American Rheumatism Association meeting in New York.



Some of the students working at NIH this summer under the COSTEP program are pictured here with their preceptors. Top row, from left: Margaret J. Young, from Meharry Medical College in Nashville, and Dr. William B. DeWitt participate in an experiment in the Laboratory of Parasitic Disease, NIAID. Arthur L. Martin of Cornell University (right), adds a chemical solution to a reaction vessel in a pH stat, working with Dr. Robert E. Canfield in the Laboratory of Cellular Physiology and Metabolism, NHI. While a junior at Montgomery Blair High School in Silver Spring, Mr. Martin was one of six winners in a National Science Foundation Training Program competition. Middle row: Dr. J. R. Newbrough of the Mental Health Study Center, NIMH, points to a study area on an outline map of Prince Georges County held by Thomas M. Ostrom of the University of North Carolina. Mr. Ostrom is assisting Dr. Newbrough on the Reading Ability Outcome Project which the MHSC is conducting in cooperation with the county's public school system. Elliot A. Milgram, a senior at Tufts Medical School (right), gets advice on an experiment from Dr. James B. Field, Clinical Endocrinology Branch, NIAMD. Bottom row: Dr. Howard L. Andrews, Head of the Radiation Physics Section, Radiation Branch, NCI, explains the significance of information recorded by a gamma-ray spectrometer to Willard G. Winn of Cornell, the first physics student to be employed at NIH under the COSTEP program. Joseph R. O'Neil, Jr., a senior dental student at Ohio State University (left), places an enamel specimen in an electron microscope specimen holder under the watchful eye of Dr. David B. Scott, Chief of the Laboratory of Histology and Pathology, NIDR.—Photos by Jerry Hecht.

## Dr. H. A. Itano Studies At Japanese Institute

Dr. Harvey A. Itano of NIAMD's Laboratory of Pathology and Histochemistry left NIH on June 22 to fulfill a one-year assignment as Visiting Scientist at the Institute for Protein Research, Osaka University, Osaka, Japan.

At the Institute Dr. Itano will study the techniques of synthesis and modification of amino acids and peptides which Prof. Shiro Akabori, Director of the Institute, has pioneered. He will also collaborate with Japanese investigators working on abnormal hemoglobins.

### Works With Pauling

Dr. Itano, who has been on the NIH staff since 1950, received his M. D. degree at St. Louis University School of Medicine in 1945 and his doctorate at California Institute of Technology in 1950. He worked closely with Dr. Linus A. Pauling, 1954 Nobel Prize winner in Chemistry, in studies of molecular diseases and the genetics of human hemoglobin.

Dr. Itano received the Eli Lilly Award for his contributions to biological chemistry in 1954 and was chosen to deliver the George Minot Lecture in 1955.

## NCI Studies Production Of Virus-Like Particles

One of the ways of obtaining a better understanding of virus-host relationships is to learn where and how virus-like particles multiply within hosts showing no evidence of malignant disease.

This approach has been used by Dr. Robert F. Zeigel of the National Cancer Institute's Laboratory of Viral Oncology, in an electron microscope study designed to produce information about the site and mode of production of virus-like particles found in tissue from healthy fowl.

### Formed by 'Budding'

Dr. Zeigel observed virus-like particles being formed by "budding" from the walls of pancreas cells of normal chicks and embryos. When budding particles were found in the pancreas, mature particles were visible in other tissues. When no particles were seen in the pancreas, none were found elsewhere.

That the particles actually were viruses has not been established, but they were similar in structure to the fowl tumor viruses. The latter are widely distributed, and are present even in apparently healthy colonies.

The observation of particles in the embryos was interesting from another standpoint: it supported the belief that virus can be trans-

## ROSES FOR BLOOD



Gladys Geise, of Bethesda (left), receives a bouquet of red roses from Comdr. Arthur D. Robertson, USN, Volunteer Chairman of the Montgomery County Red Cross Blood Program, after becoming the symbolic donor of the 30 millionth pint of blood to the American Red Cross Eastern Regional Area. Mrs. Geise, a long-time donor, gave blood to the Red Cross when the Bloodmobile visited NIH June 15. Blood collected from NIH employees by the Red Cross is for credit to the donors and members of their families. The CC Blood Bank does not maintain a supply of blood for NIH employees and/or members of their families; it supplies blood solely to patients of the NIH Clinical Center.

## Dr. Jere Mitchell Wins New Cardiology Award

Dr. Jere H. Mitchell, of the National Heart Institute's Laboratory of Cardiovascular Physiology, has won the first Young Investigators' Award to be presented by the American College of Cardiology.

He received the prize of \$1,000 and a silver medal on May 23 in New York City.

The award, for excellence and originality of research in the cardiovascular field, will be made annually on a competitive basis.

Dr. Mitchell was selected from among 10 finalists on the merits of his research, his research report, and his formal presentation of the report at the annual meeting of the American College of Cardiology.

His prize-winning report, entitled "The Transport Function of the Atrium" (summarized in the July 4 issue of the Record), was the result of work done in collaboration with Dr. S. J. Sarnoff and J. P. Gilmore, also of the Laboratory of Cardiovascular Physiology.

A graduate of VMI and the University of Texas Southwestern Medical School, Dr. Mitchell joined the NHI staff in July 1958.

mitted from mother to offspring in the egg.

The present report appears in a recent issue of the Journal of the National Cancer Institute.

## Kathleen Cole, R&W Counselor, Helps Employees Solve Personal Problems

"Go see Mrs. Cole," is a helpful and not uncommon suggestion among NIH employees.

Mrs. Kathleen Cole is a psychiatric social worker engaged by the NIH Recreation and Welfare Association to counsel employees—and sometimes their families—on personal problems.

Between January 3 and April 20 of this year, Mrs. Cole conducted 177 interviews with employees who requested such counseling, to which she devoted 195 hours of her time.

"The high percentage of people who keep their appointments is amazing," Mrs. Cole said. "From January 3 to April 20 only one person ignored an appointment."

### First Step Hardest

The reason for this high percentage, she explained, is because these people make their own appointments. No one does it for them.

"The hardest thing for a person with a problem to do," Mrs. Cole said, "is to pick up the phone and ask for help. Once they do this, they're well on the way to solving their problems."

In a single day, Mrs. Cole may see eight or nine employees. "All kinds of people come to see me," she said, "from GS-1s to Ph.D.s."

Mrs. Cole said she never grows tired of her work. "Each problem

is different and represents a challenge to me in trying to help," she said.

She counsels parents with child guidance problems most frequently. The remainder of her time is spent counseling people with personal dilemmas such as marital and other family problems. Mrs. Cole keeps everything discussed with her absolutely confidential.

### Counsels Twice Weekly

"As far as lending money goes, I can't help with financial problems," Mrs. Cole cautioned. She refers people in financial difficulty to the R&W Emergency Loan Fund, which is administered by the Employee Relations and Services Section, PMB.

"But, if an underlying personal problem has caused the financial problem," she said, "then perhaps I can help."

Mrs. Cole counsels at NIH on Tuesdays between 8:30 a.m. and 5 p.m., and on Thursdays between 9 a.m. and 1 p.m. Appointments are made by calling the R&W office, Ext. 3597, at any time during the day.

R&W has provided this type of service here since 1955. It is believed to be the only one of its kind among government recreation associations.

## Dr. Dunn, NCI, Attends Centenary Celebrations

Dr. Thelma B. Dunn, Laboratory of Pathology, National Cancer Institute, served as the Institute's official representative at the Centenary Celebrations of the Chair of Morbid Anatomy at Perugia University, Perugia, Italy, June 21-30.

Dr. Dunn took with her a letter of congratulations from NCI Director Kenneth M. Endicott to Prof. Lucio Severi, Dean of the University's Medical School. She gave to the Library at Perugia a bound volume of reprints of papers published by Institute pathologists.

Dr. Dunn presented a paper, "Pathogenesis of a Virus-Induced Leukemia in Rats," at the International Conference on the Morphological Precursors of Cancer, held in connection with the centenary celebration.

Dr. John B. Moloney, Laboratory of Viral Oncology, NCI, also attended this conference.

Some 50 percent of Federal employees are doing work that did not exist before World War II. Most of the new kinds of jobs have resulted from technological changes.

## Six Research Highlights Now Being Distributed

Six new pamphlets in NIH's Highlights of Research Progress series for 1960 are now off the press and in distribution.

Single copies of the new publications are available without charge from the Information Offices in the following Institutes and Divisions: Cancer (PHS Publication No. 812), General Medical Sciences (PHS Pub. No. 815), Mental Health (PHS Pub. No. 824), Allergy and Infectious Diseases (PHS Pub. No. 829), Heart (PHS Pub. No. 832), and Neurological Diseases and Blindness (PHS Pub. No. 842).

The Center for Aging Research, DGMS, has also published a new booklet, Research Programs in Aging (PHS Pub. No. 836).

Multiple copies of the publications may be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

Publication of additional pamphlets of the Highlights Series will be announced later.

Three-fourths of all Federal employees work for only three agencies—Department of Defense, 44%; Post Office Department, 24%; and Veterans Administration, 7%.

## Microscope Study Finds No Virus Represented In Cell Tumor Particles

An electron microscope study by National Cancer Institute scientists has furnished new information about the characteristics of cells of mouse plasma-cell tumors. These neoplasms resemble human multiple myeloma in some respects and therefore are used as laboratory models for studying this form of cancer.

Previous NCI investigations demonstrated the presence of virus-like particles in mouse plasma-cell tumors and the production of excessive amounts of protein by neoplastic mouse plasma cells and human myeloma cells. The study now reported was a comprehensive examination of the cell structure of 17 mouse plasma-cell tumors. Cells of four human myelomas were also examined.

### Particles Seen

Particles having a double-membrane outer shell, like that of some known viruses, were seen within the cytoplasm of the mouse tumor cells, but none was found either in the spaces between tumor cells or inside normal cells of the hosts. The particles did not have the central nucleoid that is assumed to contain nucleic acid, and therefore were considered noninfectious. These findings suggest that the particles did not represent a virus responsible for causing the tumors. No particles could be found in human myeloma cells.

### Other Findings Cited

Other findings suggested that neoplastic plasma cells could produce excessive amounts of protein only if they retained some of the key structural features of normal plasma cells. Variations in structure could not, however, be associated with specific differences in protein formation.

The authors of the report, which appears in a recent issue of the *Journal of the National Cancer Institute*, are Drs. Albert J. Dalton, Laboratory of Viral Oncology; Michael Potter, Laboratory of Biology; and Ruth M. Merwin, Laboratory of Viral Oncology.

## Former NIH Scientist To Teach at Harvard

Dr. Herman Moritz Kalekar, former NIH Visiting Scientist who served as Head of the Section on Metabolic Enzymes of the National Institute of Arthritis and Metabolic Diseases from 1956 to 1958, has been named Professor of Biological Chemistry of the Harvard Medical School, effective July 1.

Prior to the appointment Dr. Kalekar was Professor of Biology and Biochemistry in the Depart-

## EEG Change May Be Gauge Of Behavior-Altering Drugs

Changes in brain wave patterns induced by administration of psychotropic drugs are both identifiable and measurable and may provide a useful approach to the understanding of the effects of drugs on the clinical state of psychiatric patients. This was a conclusion agreed upon by an international panel of psychiatric researchers at a conference held in conjunction with the Third World Congress of Psychiatry in Montreal.

The conference, on "Electroencephalography and Human Pharmacology," was supported by funds from the National Institute of Mental Health.

### Drug Effects Studied

The past few years have seen a gradual increase in the sophisticated use of quantitative techniques of electroencephalography. Many investigators using both direct observational techniques and more complex instrumentation have been studying the effects of psychotropic drugs on the human electroencephalogram and have been noting significant changes.

This is the first world-wide conference at which workers from five countries have come together to compare their findings and to discuss their problems.

### Changes Observed

Although early scientific publications concerning the tranquilizing drugs failed to note any systemic effects of these drugs on the EEG, more recent work by many investigators has confirmed the fact that specific EEG changes can be observed immediately following intravenous injection of psychotropic drugs or after several days of oral administration of these drugs. Definite relationships between EEG changes and behavioral changes in psychiatric patients had been found by all investigators.

The participants agreed that all potent psychotropic drugs capable of producing behavioral change also produced significant alterations in the electroencephalogram. It was suggested that electroencephalographic techniques might be useful for the characterization of newer psychotropic agents and might enable the clinical effects of such agents to be predicted successfully.

Several investigators had noted

ment of Biology and the McCollum-Pratt Institute of Johns Hopkins University.

Born in Denmark, Dr. Kalekar received his M.D. and Ph.D. degrees from the University of Copenhagen. He is perhaps best known for his application of the principles of biochemical genetics to the understanding and treatment of human hereditary diseases, especially congenital galactosemia.

a subgroup of chronic schizophrenic patients with "hyper-normal" electroencephalographic records which showed no alteration even after large doses of psychotropic drugs. Such patients were also clinically unresponsive to drug treatment. One investigator had found such patients to show a generalized atrophy of the brain.

Drugs with differing behavioral effects were reported to show drug-specific electroencephalographic effects as well.

### Instruments Improved

Refinements in electronic instrumentation capable of measuring changes both in frequency and amplitude of brain waves have contributed significantly to this research advance.

Although the changes described are detectable by the visual interpretation and measurement of electroencephalographic tracings recorded in the conventional manner, the increased sensitivity and specificity of the newer instruments will make possible more definitive studies of correlations between drug effects on clinical behavior and the electrical activity of the brain.

## NCI Names Three New Scientific Counselors

Appointment of three new members to the National Cancer Institute's 6-man Board of Scientific Counselors was announced recently by Dr. Kenneth M. Endicott, NCI Director. The appointments were effective July 1.

The new members, who will serve 4-year terms, are Dr. Howard E. Skipper, Southern Research Institute; Dr. Richard E. Shope, Rockefeller Institute for Medical Research; and Dr. William U. Gardner, Yale University School of Medicine.

The Board consists of outstanding non-Federal scientists who advise the National Cancer Institute on its research activities at NIH and in the field.

Retiring members of the Board are Dr. Philip P. Cohen, University of Wisconsin, Chairman of the Board since 1959; Dr. E. K. Marshall, Jr., Johns Hopkins University; and Dr. Wendell M. Stanley, University of California.

Dr. Hugh R. Butt, Mayo Clinic, is the new Chairman. The other members are Dr. J. Engelbert Dunphy, University of Oregon Medical School; and Dr. Jacob Furth, Roswell Park Memorial Institute.

## Medical History Group Elects Morris Leikind As First President

Morris C. Leikind, of the Office of Research Accomplishments, DRG, was elected President of the recently established Washington Society for the History of Medicine at its third meeting, June 26, in Wilson Hall.



Mr. Leikind

Mr. Leikind has an extensive background in the field of medical history, both professionally and as a hobby. He is the author of numerous publications and articles for medical journals on this subject, and instructs a course on the History of Medicine and Medical Research—the only one in the Washington area—at the U.S. Department of Agriculture Graduate School at NIH.

Before coming to NIH in 1959 as Executive Secretary of the Neurological Science Research Training Committee, NINDB, he was the Medical Historian for the Armed Forces Institute of Pathology. He has been associated with DRG since March of this year.

### Native of Ohio

A native of Cleveland, Mr. Leikind received a B.A. degree in 1927 and an M.Sc. degree in 1928 from Ohio State University. He also attended the School of Public Health and the Institute of the History of Medicine at Johns Hopkins University.

He is a member of the American Association of the History of Medicine, with which the Washington group plans affiliation, and is Vice President of the Washington History of Science Club. He is also a member of the Science Research Society of America, the American Association for the Advancement of Science, and the Council of the History of Science Society.

### Other Officers Listed

Other officers elected at the meeting were Dr. Peter D. Olch, NCI, Vice President; George D. Bragaw, NIAMD, Secretary; and Capt. Lawrence C. McHenry, Walter Reed Army Medical Center, Treasurer.

Members of the Executive Committee are Dr. Jeanne L. Brand, NIMH; Dr. Jack T. Lasersohn, NCI; and John Blake of the Smithsonian Institution.

The society invites membership of anyone in the Washington area interested in the history of medicine. Meetings will be held bi-monthly, except during July and August. Annual dues are two dollars.

## NIAID Grantees Isolate 1st Ilheus Virus Strain In Birds, Mosquitoes

The first strain of Ilheus virus isolated from mosquitoes in the Republic of Panama and two recoveries of the virus from birds are described in separate reports by Drs. Enid de Rodaniche and Pedro Galindo of the Gorgas Memorial Laboratory in the American Journal of Tropical Medicine and Hygiene. Both scientists are grantees of the National Institute of Allergy and Infectious Diseases.

The extent to which Ilheus virus may be implicated in human encephalitis is unknown but the agent is antigenically related to the West Nile, St. Louis and Japanese B groups which cause human illnesses. In tests of specimens taken from 195 residents of Panama's Darien Province, 43.7 percent of the sera gave a positive reaction against Ilheus, a surprisingly high percentage considering that Ilheus encephalitis has not been recognized clinically in Panama.

### Birds' Significance Recognized

The isolates in mosquitoes came from pools of two different species. The two recoveries of the virus from birds were made from more than 40 different species.

The significance of birds in the ecology of a number of arthropod-borne viruses is being recognized increasingly. In the study reported here, 48 sera from birds captured in Darien, and 118 sera from birds of Bocas del Toro, Panama, were tested. These came from more than 40 different avian species and from them two recoveries of Ilheus encephalitis were made, one from a little blue heron and one from a toucan. No other virus was obtained from birds in Bocas del Toro but two strains of an as yet unidentified virus were isolated in the Darien birds.

### Neutralizing Antibodies Found

Ilheus virus was known to be present in mosquitoes in Darien shortly prior to the capture of the birds tested. Five of 62 birds from Bocas del Toro and two of 68 birds from Darien had neutralizing antibodies against this virus in their blood.

This isolation of Ilheus virus from birds is the first in Central America. Further studies are needed to assess the relative importance of the heron and toucan, as well as other birds, in the ecology of this infection in Panama.

Within the United States, 91 percent of all Federal employees are in the competitive service.

More than 180,000 workers with physical handicaps have been hired by the Federal government since 1942.

## EMPLOYEES' SUGGESTIONS PAY OFF



These NIH employees are pictured as they received awards at the Tenth Annual Awards Ceremony here June 14 "for scientific and technical devices and procedures which have significantly improved safety conditions and reduced the costs of operations at the NIH." Top row, from left: Celeste E. Meininger, Office of Program Planning, OD, who received \$50 for two suggestions adopted by the Maryland State Roads Commission for improving traffic conditions at NIH entrances; Walter C. Clark, Jr., Medical Arts Section, DRS, whose suggestion for the installation of a simple and inexpensive method of producing silk screen earned him \$100; and John W. Greene, Duplicating Shop, Internal Operating Branch, DRG, who received \$200 for a series of suggestions which improved the operating efficiency of the shop's collating machines. Bottom row: Redrick T. Rice, Library, DRS, who received \$150 for devising procedures to reduce the operating costs and production time of Xerox copiers in the NIH Library; Lillian S. Oksner, Program Development, NIMH, who won \$50 for a "do-it-yourself" suggestion for handling Soundsciber equipment, saving frequent expensive service calls; and Annette U. Moffitt, Review Branch, Research Fellowships, DRG, who received \$100 for the design and consolidation of two paper forms resulting in time and supply savings of over \$4,000 in the first year of use.—Photos by Bob Pumphrey.

## Dr. Kuff Appointed to JNCI Editorial Board

Dr. Kenneth M. Endicott, Director, NCI, has announced the appointment of Dr. Edward L. Kuff, Laboratory of Biochemistry, to the Board of Editors of the Journal of the National Cancer Institute.

Dr. Kuff joined the NCI staff in 1956 and was in the Laboratory of Biology until 1959.

Dr. Endicott also announced the retirement from the Board of Dr. Albert J. Dalton, Laboratory of Viral Oncology, who has completed a two-year term.

The Board is headed by Dr. Howard B. Andervont, Scientific Editor. Other members are Dr. John H. Weisburger, Carcinogenesis Studies Branch, Office of the Associate Director for Field Studies; Dr. John L. Fahey, Metabolism Service; Dr. Richard L. Swarm, Laboratory of Pathology; and Nathan Mantel, Biometry Branch.

## 12 YEARS AGO—

*These items are culled from the 1949 June and July issues of the NIH Record, then in its first year of publication:*

Dr. R. E. Dyer has advised the Montgomery County Council that a large part of the 4,500 persons expected to be employed here by 1958 will want to live in Montgomery County.

A small plaster bust of Pasteur has been presented to NIH by Dr. A. Seidell, former chemist here. It has been placed conspicuously in the circulation room of the library.

The Board of U.S. Civil Service Examiners at NIH has received 700 applications for positions as Guards at NIH.

Aureomycin may be the answer to more effective treatment of whooping cough, according to a report of Microbiological Institute scientists in the May 13 (1949)

## 13 Summer Employees Help NIH Library With Routine, Special Work

The NIH Library, a branch within the Division of Research Services, has one of the largest contingents of student employees at NIH this summer.

These 13 young people are working in four sections and the Librarian's office to catch up on special projects and assist with the Library's regular routine.

### 'Oldtimers' Return

Among the group are two "oldtimers," Judy Payne and Lola Powers, who are serving their third summer with the Library. Judy is a home economics major at Hood College, and Lola, assigned to the Librarian's office, is an English major at Duke University.

Frank Broschart, a history major from Mount St. Marys College, has returned to the Library for his second summer.

Five of the new students are in the Circulation Section, some assisting with duties at the Circulation Desk. They are all working in the Library for the first time this summer.

### Nearby Schools Represented

Elaine Podnos, a June graduate of Coolidge High School, enters the University of Wisconsin this fall. Robert Waymost, a graduate of Bethesda-Chevy Chase High School, looks forward to attending the Massachusetts Institute of Technology.

John White is studying religious education at Catholic University. Peter Coccaro is pursuing a pre-medical career at Boston College, and James Reed, on his way to a doctorate, will enter his third year in George Washington University Medical School.

### Others Listed

Stephen Steinman, another pre-medical student who has joined the summer staff, will help in the Acquisitions Section. Stephen is in his sophomore year at the University of Maryland.

Four other students complete the Library's summer roster: Susan Mostow, a graduate of Oberlin College; Sarah Dublin, who will be a junior at Radcliffe College this fall; Patricia Barnes, a June graduate of Sherwood High School; and Carol Weiss, who will begin her senior year at Walter Johnson High School this fall.

### issue of Public Health Reports.

First woman graduate of Georgetown University's Medical School, Dr. Sarah E. Stewart, former NIH bacteriologist, will soon interne at the U.S. Marine Hospital on Staten Island.