

# NIH



# record

DEPARTMENT OF  
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PUBLIC HEALTH SERVICE  
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## NATIONAL MENTAL HEALTH WEEK OBSERVED



At the bell-ringing ceremony at St. Elizabeths marking the opening of National Mental Health Week, DHEW Secretary Arthur S. Flemming (left) listens as Dr. Seymour S. Kety, NIMH, addresses guests and patients at the hospital. The bell was cast from shackles formerly used to restrain mental patients. Objective of Mental Health Week is to bring attention to the need of mentally ill patients for friendship and understanding of their problems.

## COSTEP CANDIDATES ARE BEING SELECTED

Approximately 45 applicants are now being selected to serve at NIH during the coming summer months under the PHS Commissioned Officer Student Training and Extern Program (COSTEP).

The training assignments are open to medical, dental, engineering, science, nursing, and veterinary students who have reached an advanced stage in their professional training, and who are interested in becoming reserve officers in the PHS Commissioned Corps. Candidates will begin their assignments here next month.

Now in its eleventh year, COSTEP provides an opportunity for students in the medical sciences to become familiar with career opportunities in the Commissioned Corps. While training here, students in past years have expanded their professional

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## DR. FELIX ELECTED TO APA PRESIDENCY

The election of Dr. Robert H. Felix, Director, NIMH, as president-elect of the American Psychiatric Association was announced at the association's 115th annual meeting in Philadelphia April 28.

Dr. Felix has been a PHS commissioned officer since 1933, and now holds the rank of Assistant Surgeon General. He came to NIH 10 years ago, when the Mental Hygiene Division, Bureau of Medical Services, which he headed, was transferred organizationally to Bethesda as NIMH.

## Mission Leaves For U.S.S.R.

Drs. DeWitt Stetten, Jr., and Joseph E. Rall, NIAMD, left May 10 as members of a five-man team of American scientists on a three-week survey of the status of endocrinology in Russia.

## NEW EXHIBIT TELLS OF COLLABORATIVE STUDY

A large human brain, modeled in plastic, is the central feature in the NINDB exhibit on display in the CC lobby through May 15.

Produced by NINDB and constructed by the Medical Arts Section, DRS, the exhibit deals with brain damage in children and with the Institute's perinatal project.

Started last January, the perinatal study is a five-year collaborative project to be carried on by the Institute and 16 leading independent medical institutions throughout the country. These organizations have begun an intensive study of 40,000 pregnancies, from conception to one month after birth, in an effort to learn more about the causes and prevention of cerebral palsy, mental retardation, and other neurological and sensory disorders. Research has already indicated that most causes of these diseases probably lie in the perinatal period.

During the course of the program, precise, standardized records will be kept on family medical histories, the course of pregnancy, the events of labor and delivery, and the progress of the child until school age. Participating scientists expect to find statistical relationships between the development of neurological disorders in children and unusual events and problems during pregnancy, labor, and delivery.

During the pretest phase of the program, conducted in 1958, investigators discovered that appropriate administration of sugar is an effective measure against some cases of permanent brain damage caused by lowering of the blood sugar, a previously disregarded factor, occurring during the neonatal period in children of toxemic mothers.

A technique now widely applied arose from another finding during

(See Exhibit, Page 2)

# Potent TB Vaccine Made From Cell Walls

No. 227 in a Series



Cell walls of Mycobacteria magnified 88,000 times.

A more potent vaccine for tuberculosis, and one less likely to be toxic, now seems to be a probability. An outcome of the work of Edgar Ribí, Carl L. Larson, Robert List, and William Wicht of NIAID's Rocky Mountain Laboratory, the new preparation promises effective protection to those threatened through contact with the disease.

Several years ago the scientists found that the antigens, or immunity-producing substances of several bacterial agents were contained entirely in the cell wall. Their work with tularemia, histoplasmosis, and salmonellosis proved that a more effective vaccine could be produced from the cell wall alone, and they next investigated the tubercle bacillus.

Because of the danger of working with the tubercle bacillus itself, the present studies are centered on two strains of *Mycobacterium tuberculosis* and of *M. butyricum*, common organisms resembling the tuberculosis agent, but much less likely to produce the disease.

In the ordinary production of a vaccine, the whole cell--protoplasm, nucleus, and cell wall--is killed or modified by chemical or other means. This frequently leaves an inactive and perhaps even toxic residue. In using the cell wall alone, the cell protoplasm and extraneous culture material must be removed in order to arrive as closely as possible at the essential particles that stimulate immune reactions.

Purification of the cell wall material involves a series of centrifuging and washing procedures, where ether and other solvents extract the soluble components, such as the lipid content of the cell walls, but preserve biological ac-

tivity. In alternating steps, the cell is gently shaken with glass beads of about one-eighth inch diameter. The beads crack the cell walls, and the protoplasm finally separates from the cell by centrifugal force.

The electron microscope is used throughout the procedure to check the purity of the substance. Eventually it is seen that the cell walls have been cracked at one end but not damaged in any other way, and that little or no protoplasm remains.

It is well known that impurities in the whole cell frequently produce toxic or allergic reactions; however, experiments on rabbits have demonstrated that the cell-wall preparation can be freed of these impurities. Moreover, this new experimental vaccine, being purer, is effective in much smaller quantities.

With the prospect of this improved vaccine in view, there is the added possibility of finding other bacterial agents so constituted that they may be made into immunizing agents in the same way.

## NCI Journal Wins Award

The American Medical Writers Association has given the Journal of the National Cancer Institute its 1959 award for distinguished service in medical journalism. The AMWA is affiliated with the American Association for the Advancement of Science.

## EXHIBIT Contd.

the pretest phase revealing that bacterial infections in the newborn can be reliably detected by the study of frozen sections of the placental membrane and umbilical cord.

# Publication Preview

The following manuscripts were received by the SRB Editorial Section between January 7 and January 20.

DBS

Kevy, S. V.; Schmidt, P. J.; and Leyshon, W. C. An "Rh positive" factor on an "Rh negative" cell.

CC

Cohen, R. A.; Pollin, W.; McDonald, R.; Kopin, I.; and Lasagna, L. How normal is a normal control patient?

Crawley, M. Nursing care of the cardiac-surgical patient.

Zubrod, C. G.; Hilbish, T. F.; Fahey, J. L.; Dutcher, T. F.; Fox, F. A.; and Osserman, E. F. Waldenström's macroglobulinemia: Clinicopathologic Conference at the National Institutes of Health.

NCI

Bauser, M. S. Cytology and early cancer diagnosis: Its significance to the nurse.

Brindley, C. O. Chemotherapeutic agents useful in the treatment of human neoplasms other than acute leukemia.

Goldin, A.; Humphreys, S. R.; Venditti, J. M.; and Mantel, N. Prolongation of the life span of mice with advanced leukemia (L-1210) by treatment with halogenated derivatives of amethopterin.

Haverback, C. Z., and Smith, R. R. Transplantation of tumor by suture thread and its prevention: An experimental study.

Heston, W. E., and Pratt, A. W. Effect of concentration of oxygen on occurrence of pulmonary tumors in strain A mice.

Hueper, W. C. Trauma and cancer -- general aspects.

Jude, J. R.; Lusted, L. B.; and Smith, R. R. Radiographic evaluation of the urinary tract following urinary diversion to an ileal bladder.

Leiter, J., and Schneiderman, M. A. Screening data from the cancer chemotherapy national service center screening laboratories.

Price, V. E.; Greenfield, R. E.; Sterling, W. R.; and MacCardle, R. C. Studies on the anemia of tumor-bearing animals. III. Localization of erythrocyte iron within the tumor.

Weisburger, J. H.; Weisburger, E. K.; Grantham, P. H.; and Morris, H. P. The biosynthetic preparation of carbon 14 labeled N-(1- and 3-hydroxy-2-fluorenyl) acetamides, and their metabolism in rats and guinea pigs.

NHI

Brodie, B. B.; Spector, S.; and Shore, P. A. Interaction of monoamine oxidase inhibitors with physiological and biochemical mechanisms in brain.

Gordon, R. S., Jr. Excretion of labelled polyvinylpyrrolidone as a test for abnormal permeability of the gastrointestinal tract to macromolecules.

Jenkins, J. J.; Russell, W. A.; and Suci, G. J. A table of distances for the semantic atlas.

Shock, N. W. Old age.

NIAID

Andrews, C. H.; Bang, F. B.; Chanock, R. M.; and Zhdanov, V. M. Para-influenza viruses 1, 2 and 3: Suggested names for recently-described myxoviruses.

Beal, G. A.; Lewis, R. E.; McCullough, N. B.; and Clatlin, R. M. Experimental infection of swine with *Brucella neotomae*.

Bell, J. F., and Hadlow, W. J. Responses of newborn and adult domestic rabbits (*Oryctolagus*) to infections with coxsackie viruses.

Brody, I.; Rowe, W. P.; Hartley, J. W.; and Lane, W. T. Studies of mouse polyoma virus infection. II. Virus stability.

Larson, C. L.; Ribi, E.; and Milner, K. C. A method for titrating endotoxic activity in the skin of rabbits.

Rowe, W. P.; Hartley, J. W.; Law, L. W.; and Huebner, R. J. Studies of mouse polyoma virus infection. III. Distribution of antibodies in laboratory mouse colonies.

Showacre, J., and du Buy, H. Enzymes catalyzing sequential reactions in mouse brain and liver supernatant fractions. II. The use of phenazine methosulfate.

#### NIAMD

Bloom, B. The intracellular occurrence of DPNH coupled reactions in liver and kidney.

Fox, M. R. S.; Ortiz, L. O.; and Briggs, G. M. The effect of dietary fat on vitamin B<sub>12</sub>-methionine interrelationships.

MacDonald, D. L., and Fletcher, H. G., Jr. 2-deoxy-D-ribose. II. The synthesis of 2-deoxy-D-ribose 5-phosphate.

May, E. L. The development of NIH 7519 [(±)-2'-hydroxy-5,9-dimethyl-2-phenethyl-6, 7-benzomorphan.]

Mosettig, E. Summary report of Symposium 4 (biochemistry of steroids).

#### NIMH

Fraser, H. F., and Isbell, H. Addendum: Addictiveness of trifluoperazine (SKF-5019).

Hrubec, Z. The association of health and social problems in individuals and their families.

Isbell, H.; Miner, E. J.; and Logan, C. R. Relationships of psychotomimetic to anti-serotonin potencies of congeners of lysergic acid diethylamide (LSD-25).

Kety, S. S. An examination of current biochemical theories of schizophrenia.

Kramer, M. The role of epidemiology in community mental health programs.

Weil-Malherbe, H.; Axelrod, J.; and Tamchick, R. The blood-brain barrier for adrenaline.

#### NINDB

Baldwin, M. Hallucinations in neurological syndromes.

Frank, K., and Fuortes, M. G. F. Voltage-clamp of motoneurone soma.

Kurland, L. T. The incidence and prevalence of convulsive disorders in a small urban community.

Pirnie, F. A., and Baldwin, M. Clinical observation of cerebral seizures.

Ranck, J. B. Jr., and Windle, W. F. Brain damage in the monkey, *Macaca mulatta*, by asphyxia neonatorum.

Rowley, P. T., and Irwin, R. L. Unsuccessful attempt to demonstrate a paralytic factor in serum of myasthenia gravis patients.

Rowley, P. T., and Kliman, B. The effect of sodium loading and depletion on muscular strength and aldosterone excretion in familial periodic paralysis.

Schaeffer, M.; Gajdusek, D. C.; Lema, A. B.; and Eichenwald, H. Epidemic jungle fevers among Okinawan colonists in the Bolivian rain forest. I. Epidemiology.

Wolf, M. K. Does acridine orange stain Nissl substance metachromatically in healthy neurons?

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## NIH Spotlight



Emory L. Byrum

Throughout all 168 hours of each week, NIH is one of the area's largest consumers of electricity. From surgical lights to office typewriters, a list of things operated by electricity is almost endless. And a definite traumatic experience to the average housewife would be the accidental receipt of NIH's electric bill--more than \$150,000 each month.

One of the men charged with the responsibility of keeping electric power flowing into NIH's laboratories and offices is Emory L. Byrum, lead electrician in DRS' electric power plant in Building 11.

As a boy in his teens in northwest Washington, Emory Byrum learned the elements of electricity working with his father on local construction projects. Later, throughout the 1920's, he worked as an electrician for several firms in the District of Columbia, increasing his knowledge of the trade.

He began his government service in 1936 as an electrician for the Architect of the Capitol, and later performed the same duties for the Department of the Interior.

When Emory Byrum came to Bethesda in 1940, he was one of only three electricians at NIH. Now there are 50. "In those days," he recalls, "the three of us serviced just six buildings, and the power plant was in the basement of Building 1, next to the elevators."

But times changed, NIH expanded, and so did the electric power system. Mr. Byrum became power plant foreman in 1955. Building 11, still a mystery to most employees who drive by, was completed in the early 1950's, and is now the second

## NEW PROMOTION PLANS ANNOUNCED BY DBO

Promotion plans covering NIH positions, similar to interim plans in effect since January 1, have been issued recently by the Personnel Management Branch, DBO.

The policy provides that promotions be made from among the "best qualified" employees on the basis of merit. The promotion plans provide a systematic procedure for locating and identifying the best qualified persons to be considered for the positions. Candidates from outside NIH who are better qualified than available employees may be selected.

Lists of vacancies are posted each week in NIH buildings. In order for the Personnel Management Branch to identify the best qualified candidates, employees should furnish current information about their qualifications to the branch.

Copies of promotion plans are being distributed to supervisory personnel and administrative officers, and are available to employees on request.

## COSTEP Contd.

knowledge and have increased their understanding of the activities of other government health agencies.

COSTEP is a year-round program, not only in Washington but at various PHS field stations throughout the country. The Clinical and Professional Education Branch, CC, serves as the coordinating point for COSTEP at NIH.

largest power plant in the Washington area.

Eighty-eight transformers across the reservation provide power day and night to more than 7,000 users. At the height of summer's heat, five giant air conditioners (a sixth is being added) pour cooled air into each building.

Though it has not been used too often, a steam-powered emergency generator is standing by in the event of power failure. With only one major power failure over the years, NIH's electric system has set an excellent record.

Each time a button is pressed and electricity powers an automatic elevator, a desk lamp, a refrigerator, or a centrifuge, Emory Byrum and his power plant crew can be thanked as the indispensable mid-dlemen.

## GROUNDBREAKING SET FOR NEW LIBRARY



Architect's drawing of the new National Library of Medicine, to be constructed on the former Glenbrook Golf Course tract, south of the present NIH grounds.

### NLM CONSTRUCTION BEGINS IN JUNE

Groundbreaking ceremonies for the new \$7.3 million National Library of Medicine are scheduled for June 12 on the site of the former Glenbrook Golf Course grounds, south of Buildings T-18 and T-19.

Construction of the new library will begin later in June, and the building is expected to be completed in 1961, in time for the 125th anniversary of the library's founding.

Construction plans call for a five-story building providing 232,000 square feet of floor space. Three of the levels will be underground. The completed building will cover 1.2 acres, and will have room for 1,150,000 volumes.

In addition to card catalogs, a reading room, study alcoves, and working areas for reference librarians, bibliographers, and catalogers, the library will feature a "History of Medicine Reading Room," a separate area containing worktables and individual study rooms, with more than 5,000 medical volumes of the 15th and 16th centuries.

The National Library of Medicine was established in 1836 as the "Library of the Surgeon General's Office" of the U. S. Army. The name was changed to the Army Medical Library in 1922, and to the Armed Forces Medical Library in 1952.

Its steady growth has brought it worldwide recognition as a medical library. Primarily an archival institution, it will provide library services to research scientists, and will continue to supplement the NIH Library's research mission.

In October 1956, responsibility for administration of the library

### NEWS BRIEFS

Dr. Parkhurst A. Shore, head of the Section on Biochemistry of Drug Actions, Laboratory of Chemical Pharmacology, NHI, was awarded the annual \$1,000 Abel Prize of the American Society for Pharmacology and Experimental Therapeutics at Atlantic City April 16. He was cited for his research in brain chemistry.

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Dr. Murray J. Shear, chief of the Laboratory of Chemical Pharmacology, NCI, was elected Vice President of the American Association for Cancer Research last month at Atlantic City. Dr. Shear will become president of the Association next year.

Dr. Thelma Dunn, of the Laboratory of Pathology, NCI, was elected to the Board of Directors of the Association at the same meeting.

### Architect Joins DRG

T. Gordon Young, architect and former president of a construction company in Bethesda, assumed his duties April 20 as a staff member of the Health Research Facilities Branch, DRG. Mr. Young will serve as a research facilities analyst and program consultant on architectural and construction aspects of grants for research facilities.

A native of Washington, Mr. Young is a graduate of Woodrow Wilson High School. He received his Bachelor of Architecture degree from Catholic University.

was transferred from the Army to PHS. At present, the library is located at 7th Street and Independence Avenue, S.W.

### SPRING HOUSECLEANING RECOMMENDED FOR ALL

"We're taking a dose of our own medicine," said Donald L. Snow, Chief, Sanitary Engineering Branch, as he looked around at the filled waste cans and half-scrubbed walls in the SEB's quarters on the 11th floor of the Clinical Center.

"This full-scale housecleaning," he said, "is the sort of thing we recommend as an annual occurrence. It's even more pertinent now, with the waste-pipe installation going on in this building and so many offices relocating around the reservation."

As members of the CC house-keeping crew scrubbed the walls and windows, a team from the Fire Department arrived to dispose of some chemicals and broken glass that couldn't be put down drains or in wastebaskets. "The same sort of cleaning job for all the other buildings on the campus can be scheduled with DBO's Housekeeping Section," said Mr. Snow, "and they're the ones to call if you need extra hampers for trash."

Mr. Snow added that an extra desk and typewriter were being turned over to the property utilization program of DBO for reconditioning and use in another location.

"Some of our files go back 10 years," he said, "and we've asked for someone in DBO's records management program to come over here and advise us on which to discard and which to send to the Federal Records Center."

No evidence of insects or rodents had been found during the cleaning, he said, but the SEB is ready to provide immediate control measures when necessary.

"I hope section chiefs plan for this kind of housecleaning every spring by requesting the services of these facilities ahead of time," concluded Mr. Snow.

