

DEPARTMENT OF  
HEALTH, EDUCATION, AND WELFARE

June 8, 1959, Vol. XI, No. 12

PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH

## NINE NIH SCIENTISTS IN HEART TALKS HERE

Nine NIH scientists participated in the first annual Symposium on Heart Diseases sponsored by the Montgomery County Tuberculosis and Heart Association May 21 in the Clinical Center.

Dr. Luther L. Terry, Assistant Director, NHI, and Dr. Robert P. Grant, NHI, served as moderators during the sessions. The morning program featured papers by Dr. Grant on the "Treatment of Cardiac Arrhythmias," and by Dr. Richard Crout, NHI, on the "Diagnosis of Pheochromocytoma." Dr. Roger Cole, NIAID, commented on the "Prophylaxis of Rheumatic Fever."

In the afternoon, Dr. Jack Orloff, NHI, discussed the "Use of the Newer Diuretic Agents," and Dr. Eugene Braunwald, NHI, discussed "Newer Techniques in the Diagnosis of Cardiac Shunts."

During a panel discussion on atherosclerosis, Dr. Arthur Karmann, NHI, spoke on recent developments in vapor-phase chromatography; Dr. Donald Frederickson, NHI, talked about unesterified fatty acids and lipoprotein metabolism; and Dr. Daniel Steinberg, NHI, discussed the effects of dietary fats on cholesterol metabolism.

Dr. Caroline B. Thomas, Johns Hopkins University; Drs. Theodore Woodward and Thomas Connor, University of Maryland; Dr. Edward Fries, Georgetown University; and Dr. Harold Oruis, George Washington University, also participated.

## Foreign Grants Moved

Dr. R. E. Scantlebury's office of Foreign Grants and Awards, DRG, moved to Building T-18, Room 112, on May 18. The section's telephone number, Ext. 4335, remains unchanged.

## COMMITTEE TO PLAN ALLERGEN STUDIES

Two NIH scientists will participate as members of the newly created Committee on Standardization of Allergens at the group's first research conference in the Clinical Center on June 13.

Dr. Roderick Murray, Director, DBS, and Dr. Paul Q. Peterson, Assistant Director, NIAID, will serve as members of the new five-man committee. Dr. Dan Campbell, California Institute of Technology, is chairman.

The committee was established last winter by the National Advisory Allergy and Infectious Diseases Council to recommend programs for the standardization of allergens, long considered by investigators to be the most important consideration in the field of clinical allergy.

Initially, the committee expects to propose studies to devise a practical method for the purification of ragweed pollen -- a major single allergen in this country.

## LIBRARY CEREMONY SCHEDULED FOR JUNE 12

Groundbreaking ceremonies for the National Library of Medicine's new building are scheduled for Friday, June 12, 2:30 p.m. at the construction site on the former Glenbrook golf course grounds, south of Buildings T-18 and T-19.

HEW Secretary Arthur S. Fleming will be principal speaker for the occasion. Senator Gordon Allott and Congressmen John E. Fogarty and Melvin R. Laird will also speak. Dr. Champ Lyons, chairman of NLM's Board of Regents, will preside, and Senator Lister Hill will perform the actual groundbreaking.

Music will be offered by the U. S. Army Band, conducted by Capt. Herbert Hoyer, and The Reverend William R. Andrew, CC Chaplain, will give the invocation. Comdr. R. E. Handran, Chaplain, U. S. Naval Medical Center, will give the benediction.

Construction on the new building will begin later this month and is scheduled for completion in 1961.

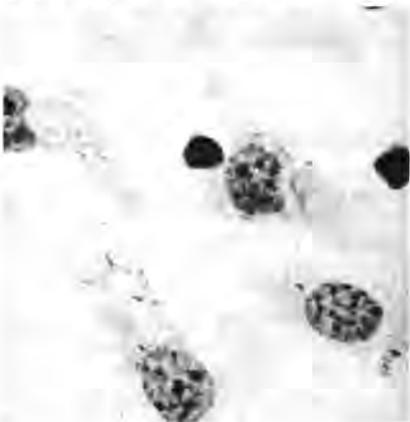
## LATEST LOOK AT NIH LANDSCAPE



An aerial view of the NIH reservation, taken in March, shows the new DBS building, top center. Next to it is indicated the site of the NIDR building, now excavated, and, lower right, the shape of the new office building, to be started early this fall.

# *Mycobacterium Leprae Murium* Grown In Tissue Culture

No. 228 in a Series



The successful growth of a strain of bacteria which causes leprosy in rats is illustrated by the above photomicrographs. At left, the bacteria are shown five hours after culturing. After five weeks (right), bacterial elongation confirms actual growth and multiplication.

A method for growing and maintaining in tissue culture the bacteria *Mycobacterium leprae murium* which cause leprosy in rats has been developed by Dr. Yao Teh Chang, Laboratory of Pharmacology and Toxicology, NIAMD, and the Leonard Wood Memorial (American Leprosy Foundation). Dr. Chang has promoted the growth of these bacteria for periods as long as seven weeks, during which time he made detailed studies of their physiology and tested new anti-leprosy drugs.

The *Mycobacterium leprae murium* is one of the most difficult strains of leprosy bacillus to grow and maintain outside the natural host. Although these bacteria do not cause disease in man, they belong to the same family as human leprosy bacilli, and the two types are so similar they cannot be differentiated under the microscope. A third member of this family--also indistinguishable microscopically--is the organism that causes tuberculosis in man. The close similarity between these organisms explains why a drug such as streptomycin may be effective against both tuberculosis and, to some degree, human leprosy or Hansen's disease.

The cells used to grow the bacteria were obtained from the peritoneal cavity of mice and are known as macrophages, large mononuclear cells whose function in the body is to sur-

round, ingest, and destroy foreign matter. The cells are infected with the bacilli and kept in a solution of horse serum that has been supplemented with spleen homogenate.

Past attempts by other investigators to grow the bacteria in cell cultures have resulted only in limited bacterial multiplication. In one of Dr. Chang's cultures, however, the number of bacteria increased seven times in seven weeks. Of even greater significance was the observation that individual bacilli were growing longer. This elongation is known to take place before the bacteria divide and provides confirmation that the bacteria are actually growing and multiplying. Elongation was first observed on the fifth day of culturing, and maximum length was usually reached after two to three weeks.

Several of the cultures were treated with isoniazid, a drug effective against the tubercle bacillus; and, as expected, the drug greatly inhibited both the lengthening and multiplication of the bacteria. Thus, the newly developed culture technique now provides a satisfactory method for testing drug potency.

The rate of growth of the bacteria in cell culture is still not nearly as rapid as that which occurs in the body, so attempts

(See *Leprosy*, Page 4)

## Publication Preview

The following manuscripts were received by the SRB Editorial Section between January 30 and February 11.

### NCI

Blum, H. F.; Butler, E. G.; Dailey, T. H.; Daube, J. R.; Mawe, R. C.; and Saffen, G. A. Irradiation of mouse skin with single doses of ultraviolet light.

Deringer, M. K. Occurrence of tumors, particularly mammary tumors, in agent-free strain C3HeB mice.

Dunn, J. E., Jr., and Buell, P. Cancer of the uterine cervix and circumcision of the husband.

Dunn, T. B.; Potter, M.; Fahey, J. L.; and Merwin, R. M. Morphology and serum protein changes in plasma cell neoplasms in mice.

Evans, V. J.; Fioramonti, M. G.; and Earle, W. R. Studies of nutrient media for tissue cells in vitro: V. The effect of the coenzymes of medium NCTC 109 on the proliferation of NCTC strain 2071 and NCTC strain 2937.

Love, R., and Bharadwaj, T. P. Two types of ribonucleoprotein in the nucleolus of mammalian cells.

Maxwell, C. R., and Peterson, D. C. The effect of  $\alpha$ -radiation on aqueous glycine.

Reid, J. C., and White, J. An autoradiographic study of tumor dynamics.

### NHI

Avigan, J. The role of serum lipoproteins in the transport of carcinogenic hydrocarbons.

Bartter, F. C.; Mills, I. H.; Biglieri, E. G.; and Delea, C. Studies on the control and physiologic action of aldosterone.

Burns, J. J. L-ascorbic acid.

Crout, J. R., and Sjoerdsma, A. The clinical and laboratory significance of serotonin and catecholamines in bananas.

Eden, M.; Karmen, A.; and Stephenson, J. L. A note on the use of katharometer in gas chromatography.

Gordon, R. S. Unesterified fatty acids and diabetes.

Hendler, R. W. A new treatment for self-absorption correction of C-14.

Korn, E. D. The enzymatic sulfation of heparin.

Larsen, J. R., and Bodenstien, D. The humoral control of egg maturation in the mosquito.

Schedl, H. P., and Bartter, F. C. A relation between serum iron binding protein levels and the infusion of human serum albumin.

Sjoerdsma, A.; Oates, J. A.; Zaltzman, P.; and Udenfriend, S. Identification and assay of urinary tryptamine. Application as an index of monoamine oxidase inhibition in man.

### NIAID

Bell, J. F., and Meis, A. Pericarditis in coxsackie B-3 infection.

Henderson, D. A., and Shelokov, A. Medical progress. Epidemic neuromyasthenia: Clinical Syndrome?

Levy, H. B., and Brodsky, I. Some biochemical effects of infection with Friend's leukemia virus.

Lones, G. W., and Peacock, C. L. Alterations in *Candida albicans* during growth in the presence of amphotericin B.

Philip, R. N.; Weeks, W. T.; Reinhard, K. R.; Lackman, D. B.; and French, C. Observations on Asian influenza in two remote island communities.

von Brand, T. Der stoffwechsel der trypanosomen.

von Brand, T. Neuere untersuchungen aus dem Gebiete der parasitenphysiologie.

von Brand, T. Neuere untersuchungen aus dem Gebiete der pathologischen physiologie parasitischer infektionen.

#### NIAMD

Bartlett, R. G., Jr., and Altland, P. D. Relation of body temperature and restraint to altitude tolerance in the rat.

Becker, E. D. NMR studies of hydrogen bonding in alcohols and phenol.

Blumberg, B. S.; Allison, A. C.; and Garry, B. The haptoglobins and hemoglobins of Alaskan Eskimos and Indians.

Burgstahler, A. W., and Mosestig, E. The total synthesis of di-C-17 oxygenated anthrasteroids.

Kalckar, H. M. Hereditary galactosemia, suitable and unsuitable methods.

Segal, S., and Blair, A. The effect of salicylate on muscle phosphorylase.

Sokoloff, L. Designated discussion of Dr. Deringer's paper: Necrotizing arteritis in BL/De mice.

Sokoloff, L. Osteoarthritis in laboratory animals.

#### NIDR

Disraely, M. N.; Caplow, M.; and Shiota, T. The occurrence and origin of certain vitamins in saliva.

Folk, J. E.; Gladner, J. A.; and Viswanatha, T. A simplified chromatographic purification of leucine aminopeptidase.

Fullmer, H. M. Demonstration of differences in mechanism in staining reactions for mast cells.

Pedersen, P. O., and Scott, D. B. Replica studies of the surfaces of teeth showing evidence of chronic endemic fluorosis.

Rizzo, A. A. A new mouth prop for oral examinations of operative procedures in rodents.

Scott, D. B., and Nysten, M. U. Improved preservation of tendon for electron microscopy through wet freeze-drying.

#### NINDB

FitzHugh, R., and Antosiewicz, H. A. Automatic computation of nerve excitation--detailed corrections and additions.

Pieper, S. J. L., and Fields, W. S. Failure of amyotrophic lateral sclerosis to respond to intrathecal steroid and vitamin B<sub>12</sub> therapy. Spyropoulos, C. S. Cytoplasmic pH.

#### NIMH

Botwinick, J. Drives, expectancies, and emotions.

Cole, J. O. Drug therapy.

Elkes, J. Pharmacological correlates.

Elkes, J. Remarks to the joint meeting of the Washington Psychiatric Society and the Saint Elizabeths Medical Society, January 1958.

Hollister, W. G. Current trends in mental health programming in the classroom.

Kay, H. Theories of learning and aging.

Kopin, I. J. The effect of tryptophan loading on the excretion of 5-hydroxyindoleacetic acid in normal and schizophrenic subjects.

Kornetsky, C.; Mirsky, A. F.; Kammen, E.; and Dorff, J. E. The effects of dextro-amphetamine on behavioral deficits produced by sleep loss in human.

Parloff, M. B., and Rubinstein, E. Research problems in psychotherapy.

Rheingold, H. L. A comparison of maternal care in home and institution.

Weiss, A. D. Sensory functions.

#### NIH RECORD

Published by  
Scientific Reports Branch  
Division of Research Services  
National Institutes of Health  
Room 117, Building T-19  
Bethesda 14, Maryland  
OLiver 6-4000 Ext. 2125

## NIH Spotlight



Mark Matthews

Mark Matthews obviously would not agree that 30 years in the Army is enough public service for any one man to perform, for when he received his 40-year pin last month he could look back on 10 years spent at NIH in addition to his Army time.

Now a corporal on the NIH Guard Force, Plant Safety Branch, DBO, Mark Matthews came here in 1949, after being mustered out of the Army as a master sergeant.

Mark is a genuine "old soldier," courteous and ramrod-erect, and he remembers with affection the "old Army," with its campaign hats and canvas leggings and well-trained horses.

After completing high school in Greenville, Ala., he joined the 10th Cavalry Regiment in 1917 and received his recruit training at Fort Huachuca, Ariz., "at the same time that General Pershing had his expeditionary force down on the border."

Later, as a young private he learned the cavalryman's necessary leatherworking craft at Fort Riley, Kans., where he mastered the art of saddlery, once so vital to the horse-mounted Army.

In later years, he soldiered at almost every cavalry post in the country, including Fort Myer, Va., then a cavalry showplace. "All the visiting dignitaries used to come there to see us ride," he recalls. "Even the King and Queen of England inspected my troop one time."

When World War II came and the cavalry changed from horses to armored vehicles, Mark was trans-

## FILM SHOWS ICNND WORK IN ETHIOPIA

"People to People," a motion picture filmed in Ethiopia last winter, will be shown on June 10 at 12:30 p.m. in Wilson Hall.

The 25-minute color film was made in Ethiopia by John W. Robinson, NIAMD. It records the work of a team representing the Interdepartmental Committee on Nutrition for National Defense (ICNND). The team travelled through more than 10,000 miles of the East African country and examined thousands of Ethiopians.

## Alva Cole Dies

Alva Cole, 44, medical biology technician at NIAID's Rocky Mountain Laboratory, Hamilton, Mont., died April 29 in the hospital at Missoula, Mont.

A native of Victor, Mont., Mr. Cole joined the laboratory staff after his discharge from the U. S. Navy in 1945. He was employed in the laboratory's Animal-Borne Diseases Section.

## Miss Adkins Honored

HEW Under Secretary Bertha S. Adkins received an honorary Doctor of Humane Letters degree from Wilson College, Chambersburg, Pa., June 8.

ferred to the Army air corps, and later served as a first sergeant in combat in the Pacific. His unit followed the first troops into Japan, and he spent a short time there before his separation from duty. "You had to have so many 'points' to get out," he remembers, "and I probably had enough for ten or twelve people."

For two years Mark worked for the Public Building Service as a messenger and elevator operator. Then he joined NIH's guard force in 1949. Three years ago he was promoted to corporal, and now is in charge of one of the relief crews on the four-to-midnight shift.

"I don't regret a single minute of my forty years in the Government," Mark says. "And I'm not the kind who is really anxious to retire--I have to keep busy. Even after my son and I open our own radio shop in Washington, which we're planning on, it will still be a pretty strange feeling, not being in the Government."

## DR. FLEMMING RECEIVES GWU ALUMNI AWARD

Dr. Arthur S. Flemming, Secretary of Health, Education, and Welfare, was one of three persons to receive an alumni achievement award from George Washington University at its commencement exercises on June 3.

Dr. Flemming was cited for his "notable achievement in the fields of government administration and education, and for conspicuous services to the university." He received his LL.B degree from George Washington University in 1933.

Anna L. Rose Hawks, president of the American Association of University Women, and Charles S. Rhyne, former president of the American Bar Association, also received the 1959 award.

## Dr. Shimkin To Speak On Local TV Program

Dr. Michael Shimkin, Chief of the Biometry Branch, NCI, will appear with Dr. Calvin T. Klopp, of the George Washington University School of Medicine, on "Celebrities on Parade," WMAL-TV, 1:30 p.m., Sunday, June 14.

The two will discuss, with moderator Joe McCaffery, the current status of cancer research in the nation.

## PHS Plans Indian Hospital

PHS will construct a 200-bed hospital at Gallup, N. Mex., to serve an estimated 81,700 Indians living on or near the Navajo Reservations in Arizona, New Mexico, and Utah. The largest Indian hospital to be constructed by PHS, it is expected to be ready for operation in November 1960.

*don't touch that dial...*

if you feel ill, report to the Health Unit



## TWO IN DBO RETIRE

Two NIH employees with long records of Federal service retired here on May 31.

Mack Eckenrode, DBO, elevator operator in Building 10, retired after 15 years' Government service, 11 of them at NIH. Before coming to NIH he had been employed by the Public Buildings Service, Washington, the Federal Works Administration, Washington, and the National Naval Medical Center, Bethesda. Mr. Eckenrode is a native of Frederick, Md.

Henry J. Jacques, cost accountant, DBO, began his 26 years of Federal service with the Department of Agriculture. He then worked on the War Production Board, in the Civilian Production Administration, the Office of the Housing Expeditor, and the Department of Commerce. He came to NIH in 1953.

## Shorthand Scheduled

An accelerated shorthand refresher course will be offered during July by the Personnel Management Branch, DBO.

Thirty-minute classes, scheduled for Monday, Wednesday, and Friday, will run from July 6 to July 31, with instruction planned for persons in three different speed levels.

Interested persons who wish to increase their speed above the required 60-words-per-minute minimum may contact the Employee Relations Section, Ext. 2195.

## Barbershop Songs Slated

"The Singing Capitol Chorus," of the Society for the Preservation and Encouragement of Barbershop Quartet Singing in America, will present a program of barbershop harmony in the CC 14th floor auditorium Monday, June 15, at 8 p.m.

Patients, NIH employees, and their families and friends are invited to attend the concert. Admission is free.

## LEPROSY Contd.

are now being made to improve the culture. If they are successful and the bacteria can be grown rapidly outside the body, it may be possible to produce a vaccine against rat leprosy just as polio vaccine is produced from large cultures of polio virus. Such a vaccine might then point the way toward a similar vaccine against Hansen's disease in humans.

## CC FACILITIES VITAL TO RESEARCH ADVANCES

During the six years of operation of the Clinical Center the unique facilities of this activity, which combines research and clinical work, have made possible a number of important findings by NIH scientists. Among them are the following:

1. Development of a promising treatment, with the antimetabolite drug, methotrexate, for a highly malignant cancer of the uterus, choriocarcinoma.

2. Demonstration that alcaptonuria, rare hereditary disease complicated by arthritis and arteriosclerosis, is caused by lack of a specific enzyme, homogentisic acid oxidase.

3. Development of a simple color test for malignant carcinoid, which can detect the tumor in an early curable stage, and elucidation of the underlying chemical characteristics of this metabolic disorder in which overproduction of a hormone, serotonin, by the tumor leads to many and varied symptoms.

4. Development of a more effective method for detection and localization of tumors deep within the brain by a method which uses the radioactive tracer technique combined with electronic scanning and recording devices and is known as collimation detection.

5. The first direct measurement of the rate at which the tissues of a human being manufacture antibodies against disease. This vital "defense factory" of the body was observed by transplanting lymph nodes from a healthy woman to her sister, a research patient suffering from the rare disease, hypogammaglobulinemia, a condition characterized by lack of antibodies.

## CC Auditorium Praised

The Washington Star music critic, Day Thorpe, in his review of a recent concert, had this to say about the main auditorium in the Clinical Center:

"Who has not seen the concert auditorium of NIH does not know one of the most charming and acoustically excellent halls in Greater Washington--perhaps the only habitable one these days. The air-conditioning is perfect."