Tangier Disease Offers Scientists Rare Opportunity

A new and rare familial disorder, characterized by enlarged odd-colored tonsils and low-blood cholesterol, is providing scientists from the National Institutes of Health with a unique opportunity to study previously inaccessible factors affecting the transport and storage of cholesterol and other lipids (fat-like substances) in the human body.

Called Tangier disease because it was first discovered in two children on Tangier Island in Chesapeake Bay, the disease involves the accumulation of extremely large amounts of cholesterol esters in the tonsils and certain other tissues of the body.

Lipoproteins Absent

The most striking biochemical feature of Tangier disease is the almost complete absence from the serum of high-density lipoproteins, the large molecules normally comprising one of the two major classes of fat-protein complexes that serve as carrier vehicles for all of the fats transported in blood. These lipoproteins have heretofore always been found in relatively stable amounts in blood in man and all animals, and their specific function is unknown. They

New Snow Emergency Plans Ready for Use This Winter

Emergency Plan No. 5 To Govern Dismissals

Personnel Management Branch recently announced certain changes in policy concerning the dismissal of NIH employees in event of hazardous weather conditions.


Policy Explained

The new policy statement follows:

"The Director, NIH, has determined that the National Institutes of Health will follow the procedure of the Metropolitan Area for excluding employees from work because of hazardous weather. Therefore, when there is a public announcement that Snow Emergency Plan No. 5 is in effect, this announcement will apply to NIH employees.

As Snow Emergency Plan No. 5 states that 'most Federal and District Offices in the Washington area will remain closed today, and their employees excused from duty without charge to annual leave.' . . . This announcement does not apply to those employees and those

Staggered Dismissals, Traffic Posts Planned

Two plans for expediting the flow of traffic from the reservation during snow emergencies are ready for use if needed this winter, according to announcements from the Personnel Management Branch and the Plant Safety Branch.

The PMB plan provides a staggered system for dismissal of employees by buildings listed within four zones. Notification of dismissal time, at 15-minute intervals, will be phoned to the various buildings according to zone, in the following priority order:

Dismissals by Zones

Zone I—Buildings 2, 4, 6, and 31.
Zone II—Clinical Center.
Zone III—Buildings 1, 3, 5, 7, 9, and 21.
Zone IV—All other buildings on the reservation.

Car pool members will be dismissed according to the zone of the driver.

The PSB plan is aimed at preventing traffic tie-ups and congestion from stalled cars. It establishes six mobile radio observation units, manned by members of the NIH Fire Department, at strategic points throughout the reservation.

From these vantage points the

D.C. Transit Announces Slight Change in NIH Bus Route

D.C. Transit has announced a slight change in the route of the morning and evening rush-hour bus between Silver Spring and NIH via Bethesda, to become effective on Monday, January 29.

Beginning that morning, the present bus stop at the intersection of Colesville Road and 16th Street, now serving as a transfer point for D.C. passengers using the 16th Street bus, will be abandoned.

The new transfer point, at which the 16th Street bus will then make connection, will be the designated stop on East-West Highway at the entrance to the Summit Hills apartments, a short distance west of 16th Street.

As a result of this change, the NIH bus will enter East-West Highway at the Covesville Road intersection, one block east of 16th Street.

Contrary to expectations, D.C. Transit reports that more passengers are using the evening bus from NIH (about 23) than the morning bus from Silver Spring (12 to 13 passengers). To cover the cost of operation, the route needs an average of about 30 passengers on each trip, according to the transit company.

The NIH Plant Safety Branch points out that the bus service was inaugurated December 18 on a 90-day trial basis, and urges all employees who can use it to advantage to do so.

The morning bus leaves the Silver Spring terminal at 7:55, arrives at the Woodmont Triangle, Bethesda, at 8:15, and at NIH at 8:20.

The evening bus leaves NIH from the Memorial Road stop, just east of Building 4, at 5:10, arrives at the Woodmont Triangle at 5:15, and at the Silver Spring terminal at 5:35. It picks up and discharges passengers at all designated bus stops en route.

Dubos to Lecture On Psychiatry of 19th Century

Dr. Rene J. Dubos, noted microbiologist and medical historian, will be the guest speaker at the Washington Society for the History of Medicine’s January meeting Thursday (Jan. 18) at 8 p.m. in the Clinical Center auditorium.

The public is invited to attend.

Dr. Dubos is a member of the History of Medicine Study Section, NIH, and a former Advisory Council member at NIAID.

Dr. Dubos’ topic Thursday will be “French Psychiatry in the 19th Century and Gericault’s Portraits of the Insane.” His lecture will include special references to the impressionist painters of the period such as van Gogh and physicians Gericault and Charcot who were interested in these painters.

The lecture will be illustrated with colored slides.

Native of France

Born in France in 1901, Dr. Dubos received his B.S. from the Institute Nationale Agronomique in Paris in 1921. He came to the United States in 1924 and received his Ph.D. in Soil Microbiology at Rutgers University under Dr. Selman Waksman, discoverer of streptomycin, in 1927.

He became a Fellow of the Rockefeller Institute the same year and served that Institute subsequently as Assistant (1927-30), Associate (1930-38), and Associate Member (1938-41). He became George Fabyan Professor of Comparative Pathology at Harvard in 1942 but returned to Rockefeller as a Member in 1944.

While at Rockefeller Institute he discovered tyrothricin and

(See DR. DUBOS, Page 1)
NIH Guard Force Dispenses Service, Safety, and Security

By Mary-Helen Emmons

Service, Safety, and Security might well be the watchwords of the NIH Guard Force, for these three essentials are freely dispensed around-the-clock by the men who make up the Guard Section of the Plant Safety Branch.

If a scientist is working on a laboratory project that requires hourly readings, a call to the Guard Section, will insure him a good night’s sleep, for he knows that his experiment will be carefully checked by one of the night-duty guards and that in the morning he will receive a report on its progress.

Another scientist may be expecting an after-hours shipment of perishable serum. When he arrives at his laboratory in the morning the serum will be safely refrigerated, thanks to the guard who accepted it late at night.

A Bunsen burner left burning, a leaking chemical container, a burned-out light bulb in a stair well, a dead animal, a suspicious odor, a blocked partition-wall escape hatch—all these and many other hazards to safety or sanitation are action signals to the NIH guard as he makes his rounds throughout the reservation.

Familiar Sight

Of all the services that the ubiquitous guards perform, probably the one most familiar to NIH employees is that of directing rush-hour traffic. Every weekday morning and evening various key intersections on the reservation are manned by white-gloved guards who deftly direct the more than 4,000 cars that enter and leave the grounds at peak traffic hours.

This operation is not as simple as it looks, for the problem of keeping traffic moving through the grounds and onto the arterial highways in an even flow is one that calls for the utmost skill in coordination.

To learn this difficult procedure the guards study and restate a Federal Bureau of Investigation training film depicting traffic patterns (See GUARD FORCE, Page 6).
NIAMD Study Suggests Molecular Orientation, Photosynthesis Relation

NIAMD scientists studying energy transfer mechanisms and allied metabolic steps have demonstrated the marked orientation of a species of chlorophyll molecules within a chloroplast (plant intracellular bodies containing the major photosynthetic pigment, chlorophyll). This finding, obtained by examining microscopically the fluorescence emission of chloroplasts may shed light on the essential process of photosynthesis—how light energy is trapped and converted to chemical energy needed for the synthesis of sugar and other substances.

Radiation Is Polarized

The investigators, Drs. Rodney A. Olson and William H. Jennings of NIAMD's Laboratory of Physical Biology, and Warren L. Butler of the Department of Agriculture, found that the fluorescent infrared radiation emitted by a single chloroplast was highly polarized.

This means that for one species of chlorophyll, nearly all the molecules are aligned in the same direction, and seem ideally situated to serve as the active centers of photosynthetic activity. Other species of chlorophyll do not show this emission and appear not to be oriented.

This finding, reported in Biochimica Et Biophysica Acta, suggests that the oriented form of chlorophyll may be involved in the transition from a physical mechanism of energy transfer to a chemical one. This study may also lead to a better interpretation of such mechanisms in all living cells.

Dr. Lazarow Appointed To NIAMD Council

Dr. Arnold Lazarow, Professor and Head of the Department of Anatomy at the University of Minnesota, has been appointed to serve on the National Advisory Arthritis and Metabolic Diseases Council. His appointment, announced by Dr. Luther E. Terry, PHS Surgeon General, is effective through September 1965.

As a member of the Council, Dr. Lazarow will advise and make recommendations to the Surgeon General and to the Director of the National Institute of Arthritis and Metabolic Diseases concerning the extramural activities of this Institute.

Dr. Lazarow, who is well known in the fields of endocrinology and anatomy, was Associate Professor of Anatomy at Western Reserve University from 1948-1954 and has held his present position at the University of Minnesota since 1954.

Infant Disorder Clues Sought In Pregnancy Blood Tests

Blood samples from more than 75,000 expectant mothers may provide the answer to how large a role virus infection plays in mental retardation, Mongolism, cerebral palsy and other neurological disorders with which infants sometimes are born.

In an unprecedented study, these blood samples are being tested for evidence of infection by scientists at the National Institute of Neurological Diseases and Blindness and the National Institute of Allergy and Infectious Diseases.

The study is part of an NINDB collaborative project in which 15 medical centers throughout the nation will conduct periodic examinations and keep records on pregnant women and their babies over a period of at least 10 years. The project is an attempt to understand the processes of conception, pregnancy, labor, and delivery in relationship to the growth and development of the newborn child.

Other Information Collected

It is also conceived as a large-scale effort to collect information on many factors which might be related to disorders of infancy and childhood, and to provide this information before, rather than after, such disorders develop.

The blood-sampling phase of the project makes use of antigens—substances which stimulate a chemical defense mechanism in the body—to test the patient's serum for evidence of exposure to certain viruses. If a patient has been exposed to infections, this will be indicated by a greater number of antibodies in the blood.

At each of the 15 collaborating medical centers, blood samples are obtained from the patients during pregnancy and are sent to NINDB for testing. The serum is stored at minus ten degrees Fahrenheit in two huge, walk-in freezers—1,390 square feet in total size—in NINDB's Serum Center.

Specific information concerning the patient's pregnancy is kept along with data concerning the sample of serum, both of which are readily available for checking and rechecking for many years.

To test the serum, NINDB's Section of Virology, under the direction of Dr. John L. Sever, and NIAID's Laboratory of Infectious Diseases, is involved.

NIMH Scientists Throw New Light on Thyroxine As Regulator of Energy

Research on protein synthesis by National Institute of Mental Health investigators has thrown new light on the role of thyroxine as a regulator of utilization of energy.

The thyroid gland and its hormonal secretion have long been known to affect growth and development. Deficiency of thyroid hormone leads to retarded growth in immature animals and mental retardation in man.

Previous theories of action of this hormone have emphasized the effects on the oxidation of food-stuffs, and the efficiency of deriving biologically useful energy from these oxidations.

Regulates Energy Utilization

Several considerations led Dr. Louis Sokoloff, of NIMH's Laboratory of Clinical Science, to suspect that the role of thyroid hormone was more involved in regulation of energy utilization than in generation of energy. Growth and development are processes that require energy and appear to be dependent on thyroxine. He therefore studied the effects of thyroxine on protein synthesis which is probably the major chemical process involved in growth and development.

The studies disclosed that thyroxine stimulates synthesis of protein in liver preparation obtained from both young and old adult rats. They also revealed that thyroxine had a similar effect on protein synthesis in immature brain and in freshly weaned rats.

On the other hand, in adult brain in which protein synthesis is a much slower process than in the developing brain, the thyroxine does not seem to have any notable effect.

The findings were reported at the Third International Neuropsychiatric Symposium.

DGMS Section Receives Group Superior Award

Members of the Grants Administration Section, Research Grants Branch, DGMS, received a group award for sustained superior performance at the DGMS quarterly luncheon meeting for birthday celebrants, held recently in Bethesda.

Dr. Carl R. Brewer, Branch Chief, presented checks to the section members. They are: Ethel Wills, Section Chief; Nancy Hall, Kathryn Warner, Dona McNish, Virginia Hitz, Dorothy Davidson, Lucille Taft, Katherine Leibold, Audrey Hess, Virginia McKenzie, Fuller Ming, and Natalie Kerdock.
Classifying laryngeal cancers based on the anatomical extent of the disease have been reported by a group of scientists headed by Dr. Robert R. Smith, Chief of National Cancer Institute’s Surgery Branch. Uniform classification of cancers is basic to accurate evaluation of end results of treatment.

The report is one of a series on stage classification of various types of cancer contemplated by a joint committee studying this problem in the United States. Committee members are appointed by the American College of Surgeons, American College of Radiology, American College of Physicians, College of American Pathologists, the American Cancer Society, and the National Cancer Institute.

Authors Named

Authors of the report are members of the Subcommittee on the Larynx. This group includes, in addition to Dr. Smith, Drs. Ralph M. Cawk of the Washington Hospital Center, William O. Russell of the University of Texas, M. D. Anderson Hospital and Tumor Institute, and William L. Jackson, formerly of Temple University. The report was published in a recent issue of Surgery, Gynecology, and Obstetrics.

The classification system devised by the Subcommittee defines the extent of disease in terms of three components: size and position of the primary tumor, presence or absence of metastases in regional lymph nodes, and presence or absence of distant metastasis. Anatomic limits of the larynx are defined and the organ is divided into five regions. Combined results of the various components from the three regions allow over 30 groupings of cases. These may be recombined and simplified into four large groupings representing four stages of disease.

Seven Institutions Cooperate

Seven different institutions engaged in the study of laryngeal cancer cooperated with the Subcommittee by applying the staging method in a group of 600 patients. No difficulty was encountered in understanding or applying the method.

The proposed system showed clearly the relation between prognosis and the stage of disease at diagnosis. Patients classified as stage one had a 5-year survival rate of 90 percent. For stage two the rate was 70 percent; stage three, 40 percent; and stage four, 20 percent.

An unexpected result of the test was its revelation of the effectiveness of present day therapy. In the absence of lymph node metastasis, the 5-year survival rate, even for patients with extensive and bulky tumors was 60 percent. The presence or absence of a clinically palpable cervical lymph node metastasis was crucial in prognosis. When present, the rate dropped to about 35 percent.

Radiation and surgery were equally effective in arresting laryngeal cancer in its early stages. When the disease extended beyond the larynx or to regional nodes radiation was less effective. In addition to its simplicity the method has two other advantages: factors in the biologic behavior for laryngeal cancer are clearly demonstrated, and stage groupings may be broken down into as few as four, or as many as 30 or more, depending on the volume of material to be studied.

**TANGIER DISEASE**

(Continued from Page 1)

have received much less attention than the low-density or beta lipoprotein class, frequently linked to development of atherosclerosis.

The findings in Tangier disease suggest that high-density lipoproteins may be essential to normal esterification with fatty acids.

When correlated with similar studies conducted elsewhere on the Tangier disease, the Tangier studies are equally effective in arresting laryngeal cancer in its early stages. When the disease extended beyond the larynx or to regional nodes radiation was less effective. In addition to its simplicity the method has two other advantages: factors in the biologic behavior for laryngeal cancer are clearly demonstrated, and stage groupings may be broken down into as few as four, or as many as 30 or more, depending on the volume of material to be studied.

Dr. Robert R. Smith, Chief of the Surgery Branch of the National Cancer Institute, will retire January 31 after 24 years in the Public Health Service. He will become Director of the Robert Winship Cancer Clinic of Emory University, Atlanta, Ga., in February.

Dr. Alfred S. Ketcham has been appointed to serve as Acting Chief of the Surgery Branch.

Dr. Smith was appointed an NCI Fellow in 1947 and served as Assistant Resident in Surgery, Memorial Hospital, New York. He was named Chief of the Institute’s Surgery Branch in 1952.

In the field of head, neck, and pelvic surgery, Dr. Smith is well known for his significant contributions to knowledge of the mechanisms of metastasis.

Prior to his association with NCI, Dr. Smith served as a surgeon at the U.S. Marine Hospitals at Staten Island and Baltimore, and at the U.S. Penitentiary, Leavenworth, Kansas. During World War II he was a Ship’s Physician and Medical Officer in the U.S. Coast Guard.

A native of Mansfield, Ohio, Dr. Smith received a B.S. degree in 1933 from Ashland College, Ashland, Ohio, and an M.D. degree from Western Reserve University School of Medicine in 1937.

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**Dr. Dubos**

(Continued from Page 1)

They have been gathering data there for nearly a year. Fishermen, who make up almost all of the male population of the island, have often donated blood samples while on their boats, and have also provided ferry service for the NIH team to aid collections from inhabitants of nearby islands.

Studies of Tangier disease were first reported in March at the New York Conference on Sphingolipidoses by Drs. Donald S. Frederickson of the National Heart Institute, and Paul H. Altrocchi, of the National Institute of Neurological Diseases and Blindness.

Also cooperating in the study has been Dr. Howard C. Goodman of the National Institute of Allergy and Infectious Diseases.

Their findings are scheduled to appear in the conference proceedings published by the Academic Press and also in the December Annals of Internal Medicine.

**Tryptamine Derivatives Produce Hallucinations In Experimental Animals**

Findings from studies on experimental animals indicating that compounds which occur normally in the body can be converted to substances that induce hallucinations and other perceptual and emotional disturbances associated with schizophrenia have been substantiated by research conducted during the past year at St. Elizabeth’s Hospital.

National Institute of Mental Health scientists have found that several simple derivatives of tryptamine, an intermediate substance in certain metabolic processes in the body, produce hallucinations and other delusional disturbances and autonomic symptoms when given orally or by injection.

The symptoms appear rapidly but last only one to three hours between which there is no reaction for similar reactions produced by lysergic acid diethylamide (LSD-25) or mescaline. This indicates a more rapid metabolism for the tryptamine derivatives and a more direct action on the central nervous system.

**Unexpected Discovery Made**

In following the fate of these derivatives in the body, it was found that the first change took place in the liver. It was unexpected, however, to find that the liver, considered to be the most important organ in detoxifying foreign substances, transforms these tryptamine compounds by reductive rather than oxidative reactions. The liver metabolites, reaching the brain by the blood stream, produce psychosis-like symptoms similar to those observed in Tangier Islanders.

These metabolites, reaching the brain by the blood stream, produce psychosis-like symptoms similar to those observed in Tangier Islanders. As tryptamine, one of many tryptamine compounds in the body, can serve as a substrate for further metabolism, these reactions are not only an instance of the unpredictable processes which occur in the liver but also suggest that the reactions may be an important part of normal metabolism and function of the brain.

Further investigation of the reactions may lead to a better understanding of certain mental diseases, including schizophrenia. In addition, these findings may have a bearing on the use of these compounds as anesthetics.

These findings were reported by Dr. Stephen Szara in the Federation Proceedings.

**Authors Named**

Authors of the report are members of the Subcommittee on the Larynx. This group includes, in addition to Dr. Smith, Drs. Ralph M. Cawk of the Washington Hospital Center, William O. Russell of the University of Texas, M. D. Anderson Hospital and Tumor Institute, and William L. Jackson, formerly of Temple University. The report was published in a recent issue of Surgery, Gynecology, and Obstetrics.

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**Disorder Clues** *(Continued from Page 2)*

Infectious Diseases, under the direction of Dr. Robert J. Huebner, supervised the production of an extensive panel of more than 100 viral antigens.

Among these are 28 ECHO viruses, 30 Coxsackie viruses, 28 adenoviruses, nine myxoviruses, and three polio viruses. These range in severity from common cold viruses to those that cause paralysis and death. As new viruses appear among the patients at the collaborating institutions, antigen production must be developed.

Development of the antigens has required extensive work in bringing together specific viral materials, performing many complicated tests, developing new tests, and in many instances developing suitable conditions to grow the virus for antigen production.

**Institutions Named**

Collaborating institutions are Boston Lying-In Hospital and Children's Medical Center, both in Boston; Brown University and Associated Hospitals, Providence; Charity Hospital of Louisiana, New Orleans; Pennsylvania Hospital and Children's Hospital, both in Philadelphia; Columbia University and New York Medical College, New York City; Johns Hopkins University, Baltimore; Medical College of Virginia, Richmond; University of Minnesota, Minneapolis; University of Oregon Medical School, Portland; Yale University, New Haven; Children's Hospital, University of Buffalo School of Medicine, Buffalo; and University of Tennessee School of Medicine, Memphis.

In addition to these medical centers, blood samples also are being obtained from the Cooperative Child Development Study at the Kaiser Foundation Hospital, Oakland, Calif.

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**Junior Village Pneumonia Outbreak Linked to Newly Recognized Virus**

An outbreak of pneumonia in Junior Village, a facility for homeless children operated by the District of Columbia Department of Public Welfare, has provided mounting evidence linking a newly recognized virus with pneumonia in young children.

When National Institutes of Health scientists and physicians at Children's Hospital, Washington, D. C., reported last June that they had been able to isolate the virus from children and to associate it with respiratory illnesses, interest in this agent in relation to children's diseases was stimulated.

Now the new virus has for the first time been found responsible for a severe outbreak of pneumonia in children, ranging in age from eight months to about four years, supplies further evidence that the virus plays a significant role in causing pneumonia in the very young. In the early months of life, infections of the lower respiratory tract are a leading cause of death.

A striking feature of this outbreak was the extremely high proportion of children it affected. During a 4-week period, 25 percent of 65 children residing in Eisenhower Cottage, a separate building housing children from eight months to about four years, and 80 percent of 25 children residing in the Infirmary, developed pneumonia.

**Serves Special Purpose**

The Infirmary is a separate building which houses the acutely ill during periods of illness and, in addition, because of overcrowding in the Cottage, provides permanent residence for children who were in need of greater individual attention because of infancy, special psychological need, malnutrition, and dehydration. Seventy-three percent of 80 children showed evidence of RS virus infection when blood samples were tested before and after the outbreak.

(See JUNIOR VILLAGE, Page 4)

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**NIAID Reports Study Of Infections in Babies At Junior Village**

Findings of a “comprehensive, long-term, clinical epidemiologic and laboratory study of acute infections and illnesses as they occurred naturally in nursery babies at Junior Village” have been reported in the American Journal of Hygiene by a group of National Institute of Allergy and Infectious Diseases investigators.

Dr. Joseph A. Bell of the Laboratory of Infectious Disease, NIAID, is senior author of the report which states that the study has been "fruitful" and is still under way.

**Turnover Aids Study**

It is also reported that “the intensity of study observations and the continual flow of new children into the nursery group have contributed to finding a surprisingly large number of illnesses and infections.”

A total of 587 children resided in the nursery group during the first three years of the study, which was initiated in 1955. This population was continually changing.

The report points out that the children involved in the study were normal except for their family situations. The investigators also note that the institution, which is operated by the District of Columbia Department of Public Welfare, utilizes city water, sewage and other public health services.

**Findings Listed**

Among the findings during the first three years of the study are:

- “On the average, each child had one new febrile illness every three weeks and a new bacterial or virus infection every two to four weeks. To date, nearly 60 immunologically different viruses have been isolated, many of which were here-tofore unrecognized or classified.

- At least 10 virus serotypes have been associated with illness in such a manner that their etiologic role is highly probable.”

Studies on the preventive value of new vaccines and penicillin have not been completed.

Other reports on this study describe in more detail observations on specific microbial agents, their role as the cause of disease, the clinical nature of such disease, and the effectiveness of efforts directed toward disease control.

The reports include the description of four previously unrecognized adenoviruses, as well as ECHO viruses, myxoviruses and parainfluenza viruses. A number of bacterial agents were also associated with respiratory disease by the study.

Associated with Dr. Bell in the study were Dr. Robert J. Huebner, Dr. Leon Rosen, Dr. Wallace F. Roye, Dr. Roger M. Cole, Dr. Robert M. Chanock, and Ruth Shvedoff, all of the Laboratory of Infectious Diseases, NIAID; Dr. Thomas M. Floyd of the National Naval Medical Center; and Dr. Francis M. Mastrotot, formerly of the National Institutes of Health.
GUARD FORCE

(Continued from Page 2)

ments all over the United States. That they learn their lesson well is attested by the fact that the reservation can be virtually cleared within 15 minutes.

By Act of Congress, all members of the Guard Section are veterans of service in the Nation's Armed Forces. Head of the Guard Section, Capt. Jacob L. Craumer, who came to NIH in November 1955, is a veteran of 20 years in the Marine Corps with a final rank of sergeant major. His staff includes four lieutenants, nine sergeants, and 13 corporals in addition to first class privates and privates.

The full force, presently incomplete, consists of 108 men, and this month 10 more are expected to be added to the Section to take over the security of the recently dedicated National Library of Medicine, located on the southeast corner of the NIH reservation.

Radio Room Impressive

The radio room of the Guard Section headquarters, located in the basement of the A-wing of Building 31, contains an impressive array of shortwave equipment and direct-line telephones.

One of the phones is connected with the NIH Fire Department, another to the Employee Health Service, and a third to the Commissioned Officers quarters. The guards also have two special phones for emergency use and one business phone.

The shortwave radios enable them to be in instant contact with other service units on the reservation, such as the NIH Fire Department and the Grounds Maintenance and Landscaping Section, and with the DHEW emergency system and Civil Defense headquarters. In addition, all Montgomery County Police and Fire Department broadcasts are monitored for word of any emergency that might involve NIH property or personnel.

Aid in Firefighting

All of the members of the Guard Section are trained auxiliaries to the NIH Fire Department. They not only assist the firemen in fighting fires but aid in confining fires by clearing and sealing off areas of danger.

An adjunct to the fire-fighting equipment in the Clinical Center is a special cart located in Stairwell 7 and maintained by the guards. This cart, containing extra hose and gas masks, can meet the firefighters at any place in the building if needed.

A listing of the many services provided by the Guard Section would be too voluminous to include here. They escort ambulances to and from National Airport and at times even double as ambulance drivers; they take over the duties of the Transportation Section at night; they call taxis for patients and their visitors, and even aid in the location of the occasional patient who strays from his home base in the Clinical Center.

Biochemical Abnormality in Hereditary Disease Discussed at Combined Clinical Staff Meeting

The Biochemical Abnormalities in Hereditary Diseases were discussed at a combined clinical staff meeting January 11 in the Clinical Center auditorium. Dr. Joseph J. Bumim, clinical Director of the National Institute of Arthritis and Metabolic Diseases, moderated the discussion.

Five papers were presented by NIH scientists working with hereditary diseases. Dr. Robert S. Krooth, formerly of the Laboratory of Cell Biology of the National Institute of Allergy and Infectious Diseases and presently with Strong Memorial Hospital, Rochester, N.Y., spoke on the Use of Human Cell Lines for Study of Genetic Diseases, a summary of the use of cell cultures in studying metabolic disorders.

Dr. Arnold Weinberg of NIAMD's Laboratory of Biochemistry and Metabolism, presently at the Massachusetts General Hospital, Boston, discussed the role of defective tissue cells in his study, Inability of Cell Lines Developed From Skin of Galactosemia Patients to Metabolize Galactose.

In his paper, Demonstration of Varying Levels of Catalase in Cell Lines From Skin of Normal Subjects, Heterozygotes, and Homozygotes for Acatalasia, Dr. R. Rodney Howell of NIAMD's Arthritis and Rheumatism Branch pointed out that carriers of acatalasia exhibit partial defects because of their low level of catalase.

Dr. Bert N. La Du of NIAMD's Arthritis and Rheumatism Branch, presented Phenylketonuria — Genetic Control of Synthesis and Regulation of Enzymes Concerned with Phenylalanine Metabolism, which described a modified method of measuring phenylalanine. Small amounts of blood obtained by pricking the finger or foot permit earlier diagnosis in babies, helping to prevent mental retardation as a result of the disorder. Polygenic Etiology of Hyperuricemia in Primary Gout, presented by Dr. J. E. Seegmiller of NIAMD's Arthritis and Rheumatism Branch, provided evidence that although primary gouty arthritis is generally regarded as a single clinical entity, there are a variety of underlying biochemical and physiological disorders that can give rise to the elevated serum urate level necessary for the development of clinical gouty arthritis.

Dr. La Du summarized the meeting, pointing out that scientists are now using many new approaches to study hereditary diseases. He suggested that the scientific basis for hereditary diseases may be a missing enzyme or something more complicated, such as abnormalities of the factors which regulate the activity of enzymes. Even though a "cure" may not be possible, Dr. La Du stressed that corrective measures frequently allow patients with hereditary diseases to lead normal lives.

Howard Spence Named Chief of CC Section

Howard W. Spence, Sanitary Engineering Consultant for Nursing Homes, Division of Chronic Diseases, PHS, has been appointed Chief of the Hospital Sanitation Section of the Clinical Center. His appointment was effective January 1.

A Sanitary Engineer in the Division of Water Supply, as Assistant Executive Officer of the Communicable Disease Center, as well as Sanitary Engineer in the Division of Indian Health, and as Assistant Chief of the Environmental Sanitation Branch, during World War II, he served in India as a member of the Sanitary Corps, assigned to the Army Air Corps.

A native of Kansas, Mr. Spence received a B.S. degree from the University of Illinois in 1940, and a M.P.H. degree from the University of Minnesota in 1950. He was also awarded a Certificate in Meteorology at the University of Chicago in 1945.

SNOW POLICY

(Continued from Page 1)

activities engaged in work which cannot be suspended without risk to the security of the United States, or danger to persons and property, or for other special public reasons. Such personnel have been previously designated by their Department or Agencies."

"The Director, NIH, will determine the need for early dismissals due to hazardous weather conditions. Information concerning early dismissals will be released to the Institutes and Divisions through the Telephone Unit. All employees who can be spared will be released from duty by their supervisors without charge to leave. Tardiness due to hazardous weather and/or transportation difficulties may be excused by supervisors without charge to leave."

"Institute Directors and Division Chiefs are requested to designate certain essential activities that must continue regardless of the weather. These employees should be informed that they are expected to report for duty or to remain at work in spite of weather conditions so that there will be continuation of essential services without confusion."

"If an employee who has been designated to report for duty regardless of the weather is unable to report, his supervisor will determine, depending upon the circumstances, the type of leave charge to be made."
PHS Research Training
For Scientists, Students
Described in Brochure

Nearly 6,000 scientists and students are receiving research training under Public Health Service research training programs described in a new brochure published by the Division of General Medical Sciences.

The 30-page publication describes the purposes and activities of the programs under which the Division provides fellowships and grant support for graduate research training in the nation's medical schools and other educational institutions.

The basic medical and biological fields involved include anatomical sciences, behavioral sciences, biochemistry, biomedical engineering, biometry, biophysical sciences, developmental biology, endocrinology, epidemiology, genetics, microbiology, nutrition, pathology, pharmacology and anesthesiology, and physiology.

Describes Programs

The pamphlet also describes the Special Grant Program, which is concerned with the problems of specialized research manpower shortages; the Medical Student Research Training Program, which assists medical schools in the early identification, selection, and research training of medical students who show promise for productive careers in academic medicine; and the Research Fellowships program.

The latter program covers the regular research fellowships, including the predoctoral, postdoctoral and special fellowships and the Research Career Award Program, the purpose of which is to provide increased numbers of stable career opportunities for qualified candidates of superior potential and capability in the health-related sciences.

120 Institutions Involved

Currently, these DGMS activities are supporting 500 research training programs involving 120 institutions and approximately 4,500 research trainees. In addition, the Division is supporting nearly 1,000 research fellowships and 300 research career development awards.

Individual copies of this pamphlet, Research Training Programs of the Division of General Medical Sciences, PHS Publication No. 865, are available from the Information Office, Division of General Medical Sciences, National Institutes of Health.

Dr. Price Devises Coffee "Drop Stop";
Stone House Hostesses Are Happy

Everyone fussed but no one did anything about the drippy spouts of the coffee urns at Stone House.

No one, that is, until Dr. David Price, Deputy Director of NIH, devised an ingenious and effective gadget which has come to be known as the "drop stop."

The two urns at Stone House are mounted on low metal carts and provide coffee for members of the National Advisory Committees and Study Sections meeting there.

But each time a cup was filled from one of the urns, a few drops of coffee would cling to the spout, later to drop on the floor, rugs, or even the hose and shoes of the conference assistants who serve as hosts and hostesses.

Dr. Price noticed the hostesses sidestepping the drops of hot coffee and announced he was "going to fix something to stop that."

A day or two later he came back with the two wooden gadgets made in his home workshop.

The device fits under the top shelf of the cart and extends beneath the overhanging spout. A slot in its protruding end accommodates the handle of a cup-holder which is held securely in place by the insertion of a wooden peg which serves as a cotter pin. A paper cup placed in the holder catches the drops of coffee.

It works like a charm. The conference assistants at Stone House are happy again.

CCNSC Exhibit Wins Certificate of Merit

The American Veterinary Medical Association has awarded a certificate of merit to NIH for a scientific exhibit on inbred laboratory animals. The exhibit, prepared by the Cancer Chemotherapy National Service Center, was presented at the 98th Annual Meeting of the AVMA in Detroit.

The certificate was presented to Samuel M. Polley, head of the Mammalian Genetics and Animal Production Section, Drug Evaluation Branch, NCI, by Dr. H. E. Kingman, Jr., Executive Secretary of the AVMA, who expressed appreciation to NCI for its contributions to the Association's convention program.

The 6-panel exhibit describes the methods used to produce a genetically uniform animal and genetic and biologic uniformity in tumors.

It also explains the methods used to control the quality of both the tumor and the animal, and their eventual application in the drug evaluation laboratories.

NCl pamphlets on genetics and breeding standards were distributed to AVMA members viewing the exhibit.

TB is not inherited. It is an infectious disease. Family members can catch it from one another.

NIAID Supported Study
Links Croup Syndrome
To Parainfluenza Virus

Findings constituting the first evidence from controlled epidemiologic studies that parainfluenza 2 virus is etiologically related to the croup syndrome have been reported in Pediatrics.

The studies, supported by the National Institute of Allergy and Infectious Diseases, were conducted at Children's Hospital, Washington, D.C., by Dr. Hyun Wha Kim, a U.S. Public Health Service Fellow. Investigators at the hospital, as well as from Georgetown University and NIAID's Laboratory of Infectious Diseases, collaborated in this work.

Virus Found in Seven

During the 3-month period of the study, parainfluenza 2 virus was isolated from 28 patients with croup. Serologic tests indicated that three other patients were infected with this agent.

In contrast, this virus was isolated from only three of 470 patients with respiratory illness other than croup or with no respiratory illness.

The part played by parainfluenza 1 and 3 viruses in respiratory diseases of children have been emphasized in previous NIAID studies. Dr. Kim states that on the basis of the current study parainfluenza 2 can properly assume a place with parainfluenza 1 and 3 viruses as important agents in these diseases.

71 Percent Infected

He also notes that 71 percent of the patients with croup in this study were infected with one of the parainfluenza viruses.

This finding alone, the investigator states, "would probably warrant inclusion of the parainfluenza viruses in a vaccine intended for immune prophylaxis against respiratory tract infections in young children. Although there is accumulating evidence that reinfection with these viruses is possible, initial infection occurs early in life and is often accompanied by relatively severe infection of the lower respiratory tract. Thus the major value of such a vaccine would be prevention of such serious syndromes as croup and viral bronchopneumonia in infants and young children."

DGMS Awards Grants
For Research Centers

PHS Surgeon General Luther L. Terry last week announced that the Division of General Medical Sciences has awarded nine grants, totaling $2,904,281, for the establishment of General Clinical Research Centers in private medical research institutions.

The grants are part of a continuing program to help improve the Nation's activities in medical and biological research at the clinical level, Dr. Terry said.

The grant awards, to eight universities and one medical center in eight states and Puerto Rico, were made by the Surgeon General on recommendation of the National Advisory Health Council.

Since the program was initiated in the fall of 1959, grants have been made for the establishment of 40 centers. A total of $11 million was appropriated for Fiscal Years 1960 and 1961, and $27.5 million was appropriated for the current Fiscal Year.

Included in the grants awarded today are two for the establishment of centers for the study of young children's diseases and the investigation of the problems of prematurity and metabolic defects in small infants. One of these grants is in the form of a supplemental award to Washington University School of Medicine, St. Louis, Mo., and the other is to the University of Colorado Medical Center, Denver.
The virus itself was isolated from 24 children and was shown to be significantly associated with the onset of an episode of fever with temperatures of 100.6°F or greater. An association between the onset of pneumonia and the presence of RS virus suggests further a causal relationship between the RS virus and pneumonia in this study, the authors state. The average highest fever among the 36 patients with pneumonia was 103.3°F, with a 4-day mean duration of fever of 100.6°F or greater. Coryza and cough were predominant symptoms during the illness and short or medium rales could be heard in circumscripted areas of the chest.

Although the mean age of Infirmary residents was lower than the Cottage children, age did not appear to be an explanation of the difference in incidence of pneumonia in the two groups as 13 of 14 Infirmary children between 12 and 23 months of age but only one of 18 Cottage children in the same age group developed pneumonia.

**Possibilities Evaluated**

The residents of the Infirmary were in general a less robust group, which might explain their greater tendency to develop severe illness from infection with RS virus. Another possibility to explain the greater incidence of severe illness in the Infirmary is the factor of virus dosage. The residents of the Infirmary were transferred to the Infirmary almost at their onset, so that the amount of virus present in the Infirmary was probably much greater than in the Cottage.

The presence or absence of pre-existing neutralizing antibody to RS virus did not appear to influence the occurrence of pneumonia. Forty-five percent of the children without detectable neutralizing antibodies and 39 percent with detectable antibodies developed the same illness. The finding is at variance with other virus infections. For example, in illness due to parainfluenza type 3, severe disease is prevented when children have neutralizing antibody against that virus.

The investigators discuss several possible explanations for the seeming difference in behavior of RS virus in the two groups in this study. It is known that in adults reinfected with RS virus can occur even when neutralizing antibodies are present, in children this may also be true.

Another possibility is that a still-undiscovered virus with properties similar to RS virus may account for the previously measured antibody. A third possibility is that some of the pneumonia in this study was due to another virus. Further study of the virus experience of the children hopefully will provide new information on these and related questions.

Provision for grants continues in the present study appear in the current issue of the American Journal of Hygiene. The authors are Drs. A. Z. Kapikian, J. A. Bell, K. M. Johnson, R. J. Higuer, R. M. Chanock of the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, Bethesda, and Dr. J. M. Mastrota, formerly with the National Institutes of Health.

**Production of Antibody Found Unnecessary to Viral Infection Recovery**

In recent Division of Biologies Standards studies on the role of antibody in recovery from infection with vaccinia virus, irradiated animals, in which no detectable circulating antibody could be demonstrated, recovered from vaccinia infection as rapidly as non-irradiated animals. The results suggest that production of neutralizing antibody was not necessary for recovery. These studies were reported in the Journal of Immunology.

In the studies, conducted by Drs. Robert M. Frieden and Samuel Baron, DBS Laboratory of Viral Immunology, vaccinia virus was used to infect Hartley strain guinea pigs. The factors of virus growth, viral antibody, circulating antibody, gross pathology, histopathology, and skin sensitivity were examined during the infection and recovery periods.

Previous studies had shown that 3000 r x-radiation to guinea pigs inhibited the antibody response but not the development of delayed sensitivity to nonliving antigens. With this in mind, the investigators subjected the guinea pigs to 3000 r x-radiation 24 hours before infection with vaccinia virus.

The sequence of events following infection was essentially the same as in nonirradiated animals with the major exception that antibody was not detected in serum as late as 28 days after infection, nor was it detected in the lesion at the time of elimination of infection.

In contrast to the inability to produce antibody, the animals were found to develop delayed skin reactions to vaccinia antigen on the fourth day. These results indicate that guinea pigs recover from vaccinia infection in the absence of antibody production, but in the presence of delayed hypersensitivity. The present results do not permit final evaluation of the role of delayed sensitivity in recovery from virus infection.

**NIH ‘Junior’ Is Winner of Football Trophy**

Jim LeCompte, 21-year-old foot-

ball-playing son of two NIH em-

ployees, was awarded the Jacobs Blocking Trophy, emblematic of the winner, at the Atlantic Coast Conference in Greenville, S.C., on January 9.

His father, George E. LeCompte of Plant Engineering, DBS, was in the conference as his 227-

pound son, a bonus draft choice of the Buffalo Bills of the profes-
sional American Football League, received the trophy and his certificate as a member of the All-

Conferance team.

“Big Jim,” a physical education major with a “B” average at the University of North Carolina, is a first-stringer, guard on the All-

Conference team. On December 30 he played in the traditional Blue-

Gray All-Star game in Montgomery, Ala.

Mr. LeCompte senior has been at NIH for 19 years. He is a member of the Contract Inspection Unit of PEB. Mrs. LeCompte is a member of the Clinical Investiga-
tions staff, NIH.