

the

Record

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PUBLIC HEALTH SERVICE
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Equipment Exhibit Expected to Draw More than 5,000

A record attendance of medical scientists and technicians, exceeding last year's total of 5,000, is expected at the 10th Annual Instrument Symposium and Research Equipment Exhibit to be held here in October.

All persons with professional or technical interest in research instrumentation are invited to attend the symposium and view the exhibit. Both events will afford visitors an unusual opportunity for exchanging scientific information with designers of research equipment.

Schedule Listed

The symposium sessions will be conducted in the CC auditorium October 3-6. The exhibit, to be held October 4-7 in Building 22, will be sponsored by 120 of the nation's leading manufacturers of scientific apparatus. They will display examples of the latest mechanical, optical, and electronic devices designed for use in laboratory and clinical investigations.

In addition, special instrument clinics have been scheduled for October 5-7 at 9:30 and 10:15 a.m. At these clinics, representatives of six of the exhibiting firms will demonstrate the research applicabilities of their newest equipment.

(See *EQUIPMENT*, Page 7)

Color Slides, Narration Available from NCI

The Office of Information and Publications, NCI, has prepared a set of 39 color slides and accompanying narration describing efforts to solve the cancer problem.

Entitled "Let's Talk About Cancer," the materials are available to anyone for use in speaking before civic groups, nurses, educators, and students.

The slides are arranged so that subjects may be discussed separately or combined in a variety of ways to suit the needs of the speaker and the interests of the audience.

Two New Instruments To Be Exhibited Here

The Supply Management Branch has announced that two new instruments of scientific interest will be displayed and demonstrated in Wilson Hall on August 25, from 10 a.m. to 4 p.m. by representatives of the Kinsman Optical Co.

They are the Bausch & Lomb Double-Beam, Double-Grating, UV-Visible Recording Spectrophotometer, which incorporates a number of innovations, and the Bausch & Lomb StereoZoom Binocular Stereoscopic Microscope, providing a continuously variable range of magnifications from 7X through 120X, with constant working distances.

Major Power Plant Flood Damage Averted in Nightlong Battle Here

By Ken Stabler

To the thousands of NIH employees streaming in to work on Friday morning, August 8, there were few signs of the heavy rainstorm of the night before. But to the handful of tired men—numbering in all about 20—who had worked

through the night to prevent serious damage to the power plant and disruption of service, the nightmarish memory lingered on.

Costly Equipment Endangered

From shortly after midnight until 6 a.m. they were on the scene, battling with every resource to keep the inflooding water from short-circuiting main cables of the electrical system or damaging the costly refrigeration and heating equipment on the ground floor of the power plant (Bldg. 11).

The freak storm, which flooded some areas of Montgomery County and left others virtually dry, poured two inches of rain on the NIH reservation between 8:30 and 10:30 p.m.

Ordinarily that amount of rainfall would have caused little concern. But an open trench, extending about 500 yards from the east end of the power plant to the construction site of the National Library of Medicine, proved an invitation to disaster.

Trench Becomes Riverbed

This trench, 10 feet wide by 20 feet deep, designed to carry steam and chilled water pipes from the power plant to the new library building, served as a natural riverbed for the downpouring water. And because the trench slopes downgrade from the library site to the power plant, the water began building up at the lower end.

Before the rising water could be controlled it reached a height of 10 feet, penetrating the north foundation wall of the power plant at various levels.

It flowed beneath and broke through the floor of the refrigeration plant, which occupies half of

(See *FLOOD DAMAGE*, Page 8)

NIH Now Employs 7,859

During the past ten years, NIH has grown from about 2,000 employees to a present count of 7,859 (including field activities). Of this number, 1,135 held doctorate level degrees. Among these are 547 M.D.s including 60 M.D.s with other doctorates as well; 523 Ph.D.s, and 61 holders of other doctorate degrees.

Ruth Rea Is Crowned Miss Washington

NIH is proud to claim a relationship to the brown-eyed beauty who was crowned Miss Washington of 1960 on Monday of last week. And the relationship is not so slight, either. For the new Miss Washington is 18-year-old Ruth Rea, daughter of Hazel Rea, Administrative Officer of the Clinical Investigations Program of NIMH, who is also widely known as an active member and former President of the NIH Recreation & Welfare Association.

Ruth, herself, is no stranger to NIH, having contributed her dancing and musical talents to a number of the annual Hamster productions.

In "Oklahoma!" at 12

In 1954, at the age of 12, she was the hit of the Hamster presentation of "Oklahoma!" with her portrayal of Laurie in the second act ballet dream sequence.

Since then, with the exception of the last two years, she has appeared in every Hamster show as a member of the singing and dancing chorus or in speaking roles.

Ruth clinched the Miss Washington talent competition with her rendition of the song, "A Little Brains—A Little Talent," from the Broadway show "Damn Yankees." She played the lead in that musical when it was presented last spring by the Bethesda-Chevy Chase High School.

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Ruth Rea smiles happily at her coronation as Miss Washington.

the Record

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NEWS from PERSONNEL

Training Announcement

Copies of the announcement of NIH secretarial-clerical training programs have been distributed to the Institutes and Divisions. The training programs will begin September 12.

These training programs have been expanded to include, in addition to the shorthand courses, classes in business English, letter mechanics, and reception techniques.

Employees must be nominated by their supervisors in order to be considered for enrollment. The deadline for nominations is August 18.

Employees may obtain additional information from their Administrative Officers or by contacting the Employee Development Section, Ext. 2147.

Political Activity

In this election year, PMB recommends that employees brush up on the regulations set forth by the Civil Service Commission pertaining to the participation of Government employees in political activities.

This information is outlined in the folder *Political Activity* (Federal Employee Facts No. 2, Feb. 1960). Employees may obtain copies by contacting the Employee Relations and Services Section, Bldg. 1, Rm. 21, Ext. 707.

Dr. Sarnoff to Deliver St. Cyres Lecture

Dr. Stanley J. Sarnoff, Chief, Laboratory of Cardiovascular Physiology, NHI, has been invited by the Board of Governors of the National Heart Hospital, London, England, to deliver the annual St. Cyres Lecture in 1961.

Dr. Sarnoff will discuss factors influencing the force of the heart beat and the analysis of other aspects of circulatory regulation.

Surgeon General Names 6 to Advisory Councils

The appointments of four new members and the reappointments of two members to three National Advisory Councils were approved recently by PHS Surgeon General Burney.

Appointed for four-year terms to the National Advisory Health Council were Dr. James P. Dixon, President of Antioch College, Yellow Springs, Ohio; and Dr. Lee A. DuBridge, President of the California Institute of Technology, Pasadena.

Dr. Dael L. Wolfe, Executive Officer of the American Association for the Advancement of Science, will serve a four-year term with the National Advisory Mental Health Council; and Dr. W. T. S. Thorp, Dean of the College of Veterinary Medicine of the University of Minnesota, will serve on the National Advisory Council for Health Research Facilities.

The reappointments were those of Dr. Robert C. Berson, Vice President of the University of Alabama Medical Center, and R. H. Coffee, business and civic leader, of Vernon, Tex.

MISS WASHINGTON

(Continued from Page 1)

She has played in school productions from elementary school days through junior high at Leland and high school at B-CC, from which she was graduated in June.

She is five feet, six inches tall and has wavy brown hair. Her measurements are 36-24-36.

Ruth was persuaded to enter the Miss Washington contest by friends who had worked with her for several years in the Hamster productions and were convinced that she could handily win this competition and carry on to capture the Miss America title in Atlantic City next month.

Here's hoping!

CC Chaplains Find Challenge In Unique Spiritual Mission

By Peg O'Brien

The three chaplains at the Clinical Center have one of the most challenging and difficult assignments of spiritual ministry in the hospital world.

Their job is unique because the Clinical Center is unique.

Unlike most other hospitals, all of its patients are research patients. All are divided into two broad categories—long-term chronic patients and those desperately ill. By virtue of its research mission, the CC houses patients with diseases which have a high mortality rate, and those that cripple or inactivate their victims over long periods of time.

Because of its national function, many patients have traveled long distances and are separated from



Andrew Veith Brandriss

their families and friends for long periods—sometimes for a year or more.

Due to these factors, the CC chaplains find far more patients who live with daily mental anguish than is usual in the average hospital.

Their care, then, is to bring help and consolation to these people and to aid them in overcoming fear, loneliness, anxiety, and discouragement.

Such problems may well seem insurmountable. How, then, do our chaplains overcome them?

They do it by finding the "person in the patient," says the Rev. William Andrew, supervisory chaplain and spiritual advisor to the

300 Protestants who comprise 75 percent of the CC's average patient load.

"The chaplain helps the patient know that he is thought of as a person and not a disease," says Chaplain Andrew. "He does it by working as a member of the healing team, and by using the sole healing tool a chaplain has—the faculty of being *with* the patient, spiritually as well as physically."

The Catholic chaplain, Father Francis Veith, and the Jewish chaplain, Rabbi Joseph M. Brandriss, agree with Chaplain Andrew that this is indeed their basic approach to their mission—to help negate any feelings of isolation the patient may have.

Visits Patients Promptly

To accomplish this objective, the chaplain begins by visiting each new patient of his faith as soon as possible after he is admitted. At this time he tries to establish a relationship in which the patient will feel free to express his concerns about the meaning and value of his life in the face of his illness.

In the further development of this relationship, the chaplain endeavors to visit the patient as often as the patient wishes. Our chaplains, of course, are on 24-hour call, ready to see a patient on the "seriously ill" list whenever needed.

When major surgery is to be performed, the chaplain visits the patient on the afternoon before the operation and immediately after it.

While the operation is in progress, if it is at all possible, the

(See CHAPLAINS, Page 1)



RELIGIOUS SERVICES for patients and patient-care personnel are conducted in this chapel on the 14th floor of the Clinical Center. It is equipped with a revolving altar that can be rotated to suit the service. Three chaplains, one of each major faith, conduct the services as part of their program of spiritual ministry to the patients.

Science Section

This four-page section, devoted chiefly to summaries of research findings that have been reported by scientists of the National Institutes of Health, is prepared with the cooperation of the Information Offices of the Institutes and Divisions of the National Institutes of Health.

New Virus Identified By NIAID Scientists At Rocky Mt. Lab

Scientists at the Hamilton, Mont., Rocky Mountain Laboratory of the National Institute of Allergy and Infectious Diseases have identified a new virus closely related to Powassan virus and related also to agent of Russian spring-summer encephalitis. The latter, previously found only in Europe and Asia, causes serious human illnesses.

The virus was isolated from a pool of 20 ticks collected along the North Cache las Poudre River, Colorado. It has been shown to be closely related if not identical to Powassan virus.

Canadians Find Virus

In 1958 Powassan virus was found in the western hemisphere for the first time. A group of Canadian workers isolated it from the brain of a 5-year-old boy dead of an acute encephalitis.

The isolation at the Rocky Mountain Laboratory is reported in the *Proceedings of the Society for Experimental Biology and Medicine* by Drs. Leo A. Thomas, Richard A. Kennedy, and Carl M. Eklund of the National Institute of Allergy and Infectious Diseases.

Isolation in the United States
(See *NEW VIRUS*, Page 4)

Chromium Role Studied In Lung Cancer Cause

Dr. William W. Payne, of National Cancer Institute's Environmental Cancer Section, has reported further evidence of the carcinogenicity of chromium in laboratory animals. The results were obtained in a continuing study to learn whether chromium in one or more forms is responsible for the increased rate of lung cancer among chromate workers.

About a year ago, in collaboration with Dr. Wilhem C. Hueper, Dr. Payne reported the development of cancers in rats that received implants of moderately soluble chromium compounds. The present study was undertaken to determine whether the compounds would produce similar results in another species, the mouse.

Mice receiving intramuscular implants of calcium chromate and sintered calcium chromate (prepared by heating pure calcium chromate to approximately 2000° F. for about an hour) developed tumors at the site of implantation. Sintered calcium chromate produced more tumors than did calcium chromate. The tumors, which began to appear seven months after administration of the carcinogen, were sarcomas of the spindle cell or fibrosarcomatous types.

The study is reported in a recent issue of the *A.M.A. Archives of Industrial Health*.

KRYPTON-85 IS FOUND RELIABLE AS CARDIAC SHUNT DETECTOR

Studies by National Heart Institute scientists on 48 patients have shown that radioactive krypton, injected directly into the heart via a cardiac catheter, provides a simple, rapid, and accurate means of detecting and localizing cardiac shunts. The small quantities of the isotope needed for the procedure and its short biological half-life make the method safe both for the patient and for laboratory personnel.

Shunts result from holes in the partition separating the right heart from the left heart. The right heart receives oxygen-poor blood from the body and pumps it to the lungs; the left heart receives the freshly oxygenated blood from the lungs and pumps it to the body. By allowing the mixing of oxygen-poor blood with

oxygenated blood in the heart, shunts can seriously impair the efficiency of the heart in delivering oxygen to the tissues.

To detect left-to-right shunts, a catheter is positioned in the left heart and 3-5 ml. of saline containing dissolved krypton-85 is injected. If no shunt exists, the gas will be pumped throughout the system and largely dissipated before making a much-delayed appearance in the lungs via the right heart.

But a left-to-right shunt will allow some of the gas to cross to the right heart, where it is pumped directly to the lungs. Thus, shortly after injection the gas will appear in high concentration in the air exhaled by the patient. The radiation of the expired air is monitored by a count-rate meter and recorded continuously on a direct-writing oscillograph.

To detect right-to-left shunts, the krypton-85 is injected into the right heart and arterial blood samples drawn at a constant rate for the next 15 seconds. In the absence of a shunt, all of the gas is pumped to the lungs where about 95% of it is eliminated in the expired air before entering the arterial circulation. Thus high concentrations of the isotope in the arterial samples mean that the gas bypassed the lungs by crossing directly to the left heart.

Accuracy High

Repeated injections of krypton-85 with the catheter tip stationed at different points makes it possible to localize shunts with a considerable degree of accuracy. The method also permits estimation of the magnitude of right-to-left shunts by relatively simple calculations.

In every patient in which this technique indicated the presence or absence of a shunt, its accuracy was subsequently verified by findings at operation or autopsy, or by the use of other established techniques for diagnosing shunts.

These included selective angiography, dye dilution curves, and krypton-85 or nitrous oxide inhalation tests. The method proved to be convenient, simple to apply during heart catheterization, and sensitive enough to permit the detection and localization of even very small shunts.

These clinical studies were conducted by Drs. R. T. L. Long, Eugene Braunwald, and A. G. Morrow, of the NHI Surgery Branch. Their findings are reported in *Circulation*.

NCI, New York State Study Cancer Incidence

Scientists of the National Cancer Institute and the New York State Department of Health have collaborated in an epidemiological survey of cancer incidence in urban and rural areas of New York. The data were obtained for the period 1949-1951 from a central cancer register maintained by the Department of Health, to which all physicians, hospitals, and laboratories in the State (exclusive of New York City) report cancer patients.

The cancer risk was generally greater for the urban than for the rural population. Urban-rural ratios of incidence rates were higher for males than females. The largest urban-rural ratios noted for males were for the respiratory system, buccal cavity and pharynx, esophagus, intestine, rectum, and urinary organs; for females, buccal cavity and pharynx, and urinary organs. The findings showed substantial agreement with the incidence rates and urban-rural ratios of rates reported from Connecticut and Iowa.

The work is reported in a recent issue of the *Journal of the National Cancer Institute* by Dr. Morton L. Levin, now at the Roswell Park Memorial Institute, Buffalo; William Haenszel, Biometry Branch, NCI; Benjamin E. Carroll, Field Investigations and Demonstrations Branch, NCI; Dr. Paul R. Gerhardt and Dr. Vincent H. Handy, New York State Department of Health, Albany; and Dr. Samuel C. Ingraham, II, Field Investigations and Demonstrations Branch, NCI.

Mineral Role in Caries Susceptibility Clarified

It has been a long standing concept that the susceptibility of the teeth to dental decay is determined to a large extent by certain mineral constituents of the diet. Recent data obtained from studies by National Institute of Dental Research investigators (reporting in the *Archives of Oral Biology*) now offer a better understanding of how these minerals actually influence the chemistry of the teeth and caries susceptibility.

In experiments designed by Dr. F. J. McClure and Mr. H. G. McCann, Laboratory of Biochemistry, the ash content (calcium, phosphorus, carbon dioxide, and magnesium) of the teeth and long bones of white rats was studied following maintenance on dietary regimes widely varied in calcium, phosphorus, and magnesium.

Results showed that variations in these dietary minerals appreciably affected the chemical composition of certain of the calcifying

tissues, particularly those which were undergoing mineralization during the experimental period. However, no correlation could be established with the dental caries experience of the test animals.

Of additional significance was that contrary to previous studies reported in the literature, there was no evidence that the carbon dioxide-phosphorus ratio in dental tissues was a significant factor in the incidence or severity of dental decay.

In those diets, which were supplemented with calcium and phosphorus compounds, variable cariostatic effects were noted with the calcium supplement, whereas the most significant and consistent reduction in decay was closely identified with a dibasic sodium phosphate additive. It is noteworthy that this anticaries action was not related to changes in the calcium, phosphorus, carbon dioxide, and magnesium content of the enamel or dentin.

Immunization Programs Use Many Avenues of Approach

Excerpt from the William Royal Stokes Memorial Lecture of the Medical and Chirurgical Faculty of the State of Maryland, given by Dr. Joseph E. Smadel, NIH.

Vaccines used in the immunization of man provide an important means for the prevention of infectious diseases. However, they constitute only one approach to the problem of control. Another important aspect includes the quarantine procedures applied internationally against smallpox, yellow fever, cholera, plague, typhus and relapsing fever.

Still another approach to the problem is concerned with breaking the chains of infection by eliminating the vectors of the pathogen. DDT and the newer insecticides have made it possible to free populations and geographic areas of the louse vector of epidemic typhus and the mosquito vector of urban yellow fever.

Animals Are 'Reservoirs'

The last means I shall mention for controlling spread of infection to man consists of avoidance, reduction, or elimination of animals which serve as reservoirs of agents which infect man. Among the animal reservoirs are the dog for rabies, the rat for plague and murine typhus, and the rabbit for tularemia.

Before discussing some of the particulars of immunization programs, I would like to mention certain of the principles on which they are based.

Vaccination is undertaken with the hope of eliciting as much resistance to infection as is induced by the clinical disease itself or by an inapparent infection caused by an epidemic agent.

Incidentally, it is worth pointing out that inapparent infection results in as solid an immunity as does classical disease. Inapparent infections are common in poliomyelitis and many of the arthropod-borne encephalitides. They are rare in smallpox and measles and unknown in rabies.

Immunity Varies

Some infectious diseases are followed by long lasting immunity; yellow fever provides an excellent example of this, as do smallpox and measles. At the other end of the scale are infections with transient resistance to reinfection; certain of the agents associated with acute respiratory disease or "common cold" produce infections with short lived immunity.

The story of long or short duration of resistance to reinfection is not quite as simple as has been just described. Certain clinical diseases such as epidemic influenza

are caused by a number of closely related but distinct agents. Recovery from influenza caused by a given Type A virus is associated with no immunity to a Type B virus. Indeed, it is not even associated with solid resistance to all Type A viruses. This is the reason why influenza vaccines are generally polyvalent, containing several strains of viruses from Types A and B.

Vaccines in Two Classes

Similarly, poliovaccine contains all three types of poliomyelitis virus. In diseases of the type exemplified by influenza one might expect to induce a broader resistance to infection by means of a polyvalent vaccine than is actually attained by infection with a single strain of virus.

Materials used for the immunization of man fall into two broad classes, viz., live attenuated vaccines, exemplified by classical smallpox vaccine, and non-living vaccines, exemplified by diphtheria toxoid and typhoid vaccine. While there are many differences between the two classes, I would like to concentrate your attention on one aspect. Live attenuated vaccines such as those against smallpox, yellow fever and polio induce a mild or subclinical disease, during the course of which the virus multiplies many thousandfold. This multiplication provides the mass of antigen necessary to induce the desired immunologic response which once obtained generally lasts for years.

Booster Shots Used

In contrast, the non-living vaccines do not increase in amount after inoculation. Hence, the total antigenic mass required for the immunologic response must be inoculated. Such large amounts of antigen, if given at one time, often produce local and general reactions. Some of these reactions can be avoided by giving the required amount of antigen in a number of divided doses over a period of time. In order to avoid reactions and to reduce the number of injections—and still elicit a solid immunity which persists for a long time—most vaccination programs take advantage of the booster phenomenon.

The booster effect can only be obtained in a properly prepared person, that is one who has had previous experience with the antigen. By using this phenomenon

NEW VIRUS

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of an agent related to a group of viruses known to cause extremely severe illness in other parts of the world necessitates continued studies to determine the ecological factors associated with the virus and the degree to which man is exposed to infection, the authors believe.

Ticks (*Dermacentor andersoni*) were injected into mice which then developed illness suggestive of encephalitis. Serologic studies of the agent isolated from the mice included hemagglutination, hemagglutination-inhibition, complement fixation, and neutralization tests.

These tests differentiated the virus from others such as Japanese B, Ilheus, Murray Valley, West Nile, St. Louis, and Russian spring-summer encephalitis viruses, but not from Powassan virus.

Disease Role Studied

Scientists at the RML have studied ticks in the western United States for a number of years to determine their role in disease. Techniques suitable for isolation of the Powassan-like agent have been employed and many isolations of tick fever virus made from thousands of ticks, but until the present study there was no evidence that other viruses were present.

According to the investigators, these studies suggest that some insect other than ticks may be a reservoir or vector of the virus. There have been some observations based on serologic studies that certain individuals in the western States have antibodies against group B arthropod-borne viruses which cannot be accounted for by the agents previously known to be present in these areas.

one gets a bigger yield of antibody for a given antigenic mass than would be obtained in an unprepared person.

Another means of obtaining more antibody, and presumably more immunity, with a given mass of antigen is to incorporate it into a mineral oil emulsion before injecting the material into man.

Such adjuvant influenza vaccines have been administered to over a hundred thousand military personnel in the past seven years. No untoward effects have been noted in this large group although certain of the earlier experimental adjuvant mixtures made with impure materials did elicit undesirable local reactions. My personal opinion is that there has been too much hesitation in putting the mineral oil adjuvant vaccines into general use for immunization.

Hormone Relationship To Human Behavior Clarified by Findings

The Psychosomatic Section of the Adult Psychiatry Branch is attempting to determine the extent to which day-to-day interactions of normal individuals with their environment are reflected in endocrine function.

Adaptation to a new environment has proved to be a potent stimulus for adrenal activity. The investigators have found substantial hormone elevations in normal controls during the first few days following admission to the Clinical Center. This is a tense experience for most of these individuals, since they typically are somewhat concerned about possible risks. Under these circumstances, significant elevations in plasma and urinary hydrocortisone and also in the excretion of epinephrine and norepinephrine have been observed.

Repeat studies of each person over several months have shown that individuals are consistent in their adrenocortical activity. Some individuals consistently respond to the stresses of ordinary living with substantial steroid output; others show relatively slight response under the same circumstances. These differences tend to emerge more clearly under stress than under basal conditions.

Findings Summarized

Findings with the movie technique so far may be summarized as follows:

(1) Moderate pre-film hydrocortisone elevations frequently occur, just as pre-experimental elevations have occurred in other contexts; these elevations are associated with a background of uncertainty and tension about the experiment.

(2) Against the background of this tension and moderate steroid elevation, sharply contrasting film effects have been demonstrated: pleasant, absorbing films almost always produce a drop in steroid levels, whereas powerful films usually maintain relatively high levels, frequently producing further elevation.

Within the year, it is planned to measure several hormones simultaneously in the same individual under stress and non-stress conditions. This will permit analysis of relations within the endocrine system during adaptive behavior.

Calorie Count Compared

The Harvard School of Public Health finds that lean adolescents consume about 4,600 calories a day compared to 3,400 calories for overweight teen-agers.

Inborn Metabolic Error Indicated in Disease Of Nervous System

A cerebral degenerative disorder, presumably due to an error of intermediary metabolism, has been described in five boys in two generations of the same family. Distinguishing features of the new syndrome are peculiar stubby white hair, early and severe growth retardation, and severe neurological impairment, beginning soon after birth and progressing to decerebration and death.

Although the symptoms and familial nature of the disorder suggest it is of metabolic origin, no specific biochemical abnormalities have yet been demonstrated.

Problem Extent Unknown

Recent studies have shown that certain types of mental retardation or cerebral degeneration are caused by inborn errors of metabolism, although the actual extent of the problem is unknown. The recognition and identification of metabolic defects which occur with retardation is at present a promising and important field of investigation.

The present study was reported at the American Academy of Neurology meeting by Dr. Milton Alter, National Institute of Neurological Diseases and Blindness; Dr. John Menkes, Neurological Institute, New York; and Drs. Gerd K. Steingelder and David R. Weakley of the Columbia-Presbyterian Medical Center, New York. The investigation was supported by grants from National Institute of Arthritis and Metabolic Diseases, and Division of General Medical Sciences.

Family History Studied

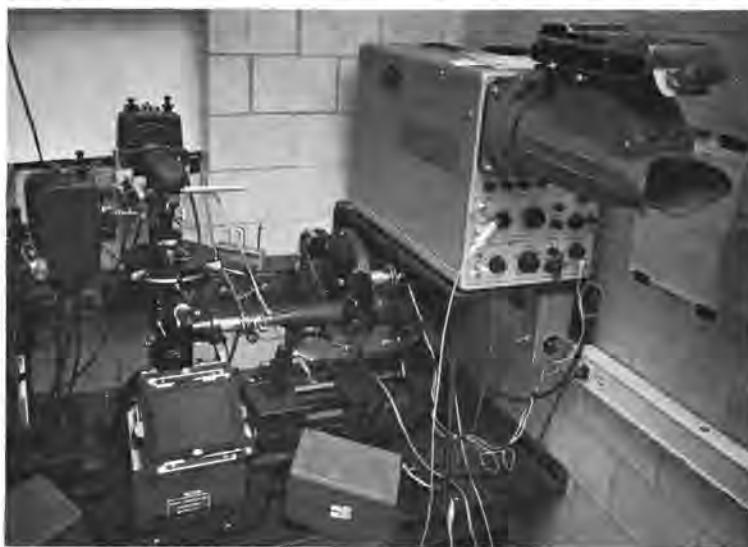
Two patients exhibiting the syndrome were examined by the investigators and data on three other cases were obtained from medical records and interviews. From the family history, it was determined that transmission is probably by a sex-linked recessive gene. A review of the literature confirmed that the disorder represents a clinical syndrome not previously described.

Microscopic examination showed that the stubby, coarse, white hair found in all the children was twisted, beaded, and split at regular intervals. Although cases with similar hair defects and mental retardation have been reported, none have occurred with a fatal prognosis. Additional histologic studies showed normal skin, hair follicles, and sebaceous glands.

Impairment in weight gain, severe mental retardation, and focal or generalized convulsions also occurred in all patients, and several

(See METABOLISM, Page 6)

NIAMD Physical Biologists Discover Important New Photosynthesis Facts



This is a continuous rapid scanning microspectrofluorimeter, which Dr. Rodney A. Olson, NIAMD, developed primarily for the study of fluorescent structure in connection with the photochemistry of living cells. He used the device to measure the emission spectra of the alga *Chlorella* during the study of the structure of chloroplasts.

Studies by physical biologists at the National Institute of Arthritis and Metabolic Diseases are providing important new facts about photosynthesis, the most fundamental and fascinating of all biochemical reactions. The basic importance of these studies can hardly be overemphasized since photosynthesis alone prevents the rapid disappearance of life from the earth.

In the Section of Photobiology, headed by Dr. F. S. Brackett, NIAMD scientists are developing new techniques and instruments to uncover how green plants capture the energy of sunlight and use it to produce organic compounds from carbon dioxide and water.

The problem is essentially one of energy transfer and conversion, and as such it has bearing on many biological systems. Of considerable interest is the structure of the chloroplasts, the small green bodies in higher plants and green algae which contain chlorophyll, the major photosynthetic pigment. It is now generally believed that the reaction sequence of photosynthesis begins and ends in the chloroplasts and that their molecular structure accounts for their unique ability.

Using a technique known as absorption microscopy, Drs. R. A. Olson and C. L. Breenblatt, and E. K. Engel, have been able to confirm—by light microscopy—what had been previously suggested by electron microscope studies. This was that chlorophyll exists in a number of layers inside the living chloroplasts.

This lamellar structure, a "sandwiching" of a layer of single molecules of chlorophyll with layers of protein and lipid, is believed to be an aspect of the essential structural characteristics of the chloroplasts, which enable them to con-

vert light energy to chemical energy.

Although the electron micrographs had indicated a laminated structure, it was difficult to determine whether the electron-dense layers in the prepared sections of chloroplasts were actually those of chlorophyll.

To study this *in vivo*, the NIAMD investigators used chloroplasts from *Euglena gracilis*, a one-celled organism. They devised a way to extrude the chloroplasts from the plant cells without apparent damage by grinding the cells with microscopic glass balls (glass pavement marking spheres). Then, by trans-illuminating the chloroplasts with light of the particular wavelength absorbed by chlorophyll, the researchers were able to record photographically the areas of chlorophyll density.

These areas were found to coincide with those shown by the electron microscope *in vitro*. The work was reported in the *Journal of Biophysical and Biochemical Cytology*.

Dr. Olson and his NIAMD associates have also constructed a device to measure the emission spectra of *Chlorella*, a simple chlorophyll-containing alga. These plants, like all photosynthetic ones, fluoresce when excited by light of particular wavelengths (in this case 4358 Å), and the characteristics

(See PHOTOSYNTHESIS, Page 6)

NIAMD World Studies Suggest Link Between Haptoglobin and Disease

A geographic study of inherited serum proteins called haptoglobins suggests that there may be a relationship between these genetic characteristics and human disease. The study is headed by Dr. B. S. Blumberg of the Program on Geographic Medicine and Genetics, National Institute of Arthritis and Metabolic Diseases, and Dr. A. C. Allison of the British National Institute for Medical Research, presently a visiting scientist at NIAMD.

The haptoglobins are a family of serum proteins which bind hemoglobin. Although the presence in the blood of three major inherited forms of these proteins has been known for several years, Drs. Blumberg and Allison have now found four additional phenotypes including one in which no haptoglobins are detectable.

In any one individual the pattern of serum haptoglobins is controlled by two genes, termed haptoglobin¹ and haptoglobin², which are not sex linked and are fully expressed in the heterozygote. (Homozygous individuals possess only one type of haptoglobin gene; heterozygous individuals possess both types and they have a more varied pattern of serum haptoglobin.)

Distribution Mapped

The investigators have "mapped" the distribution of haptoglobins and the frequency of the haptoglobin genes in various populations throughout the world. They have found that the haptoglobin¹ gene tends to be more common in tropical regions in North and South America and Africa, but not in Asia. Dr. Blumberg and Allison believe that the distribution of these various forms of haptoglobins in different human populations may bear some relationship to disease susceptibility.

Studies on the haptoglobins suggest that they may be important in the nutrition of some populations since the absence of haptoglobins results in a loss of hemoglobin in the urine. In regions where iron deficiency is endemic this loss could be a contributing factor in anemia.

The scientists have also confirmed previous findings that the concentration of haptoglobins rises in different diseases—in rheumatoid arthritis, for example, and a number of other acute and chronic inflammatory diseases.

The investigators are now attempting to isolate the different haptoglobin types and to break down their components biochemically in an effort to determine their differences and similarities.

New Techniques Advance Knowledge Of Speech and Hearing Disorders

From two to five percent of American children between five and 20 years of age, have been reported to have speech disorders which interfere with normal development. About four percent of our school children have hearing impairment which includes speech complications through inability to hear speech properly. A little over one percent of students require rehabilitation and special speech education because of hearing handicaps. Many infants have severe communication problems, and hearing and speech defects arising in childhood are often lifelong handicaps.

Estimated 3 Million Affected

Fewer statistics are available on hearing and speech trouble developing during adult years but, conservatively, an estimated 3 million persons are affected with major hearing and speech problems.

Progress in understanding disorders of hearing and speech has been made in recent years not only through research but through new techniques of testing and evaluation. It is only within the last few years that definitive and diagnostic testing for disorders of hearing have been available. This testing has helped to distinguish between disturbances of communication which may be caused by diseases of the ear, disruption of the pathway from the ear to the brain, and disturbances of the brain which make it difficult to analyze sound. The use of these newer techniques in audiology or "communicology" is making it possible to determine the nature and extent of hearing disorders.

Electronic Analysis Used

Similarly, in speech, new electronic techniques of sound analysis and of muscle activity are making possible a precise examination of the speech process. Through another technique, cineradiography, which actually is X-ray movies, it is possible to observe the tongue, palate, and larynx during speech.

Considerable progress has been made in basic research studies of the nerve pathway by which the brain itself controls the sensitivity of hearing. The arrangement of the nerve terminals and manner of distribution within the ear have been more clearly determined. Other connections of the cochlear nucleus have been studied and two new bundles of efferent nerve fibers have been identified.

The brain's control over the hearing process may provide clues to distortions of hearing previously difficult to understand. This basic

research is leading further into the problem of the brain's ability to regulate the intensity of sound and to discriminate among sounds.

For the first time, investigators have described a mechanism whereby nerve impulses in individual auditory nerve fibers are initiated by receptor organs. Experiments with totally-deaf guinea pigs were instrumental in determining the source of electrical potential within the cochlea.

Reports Encouraging

Encouraging reports have come from National Institute of Neurological Diseases and Blindness grantees on restoration of hearing in patients suffering from otosclerosis. This form of deafness, prevalent in the older age groups, is rapidly yielding to newly developed surgical measures of relief.

In this disorder, the small bones of the inner ear, through which sounds are normally transmitted, become rigidly fixed in position and are no longer capable of transmission of the sound vibration. The first approach to this disabling condition was the "stapes mobilization operation." An unfortunate feature of this procedure lies in the fact that scar tissue may once again lead to the rigid fixation of these structures.

New Approach Developed

A new approach to this problem has been developed in the past year. The rigid bones are bypassed with a very thin plastic tube which serves as a channel for the transmission of the vibration directly to the sensitive internal ear. The new plastic materials do not produce irritation or inflammation of the tissues, and it appears that they may serve as a permanent restorative for hearing in patients suffering from this disorder.

There are also new developments relating to the brain's function in relation to speech and problems of aphasia. The consideration of cerebral dominance—relation of the left side of the brain to speech—and the localization of the speech process is also under study.

Several new projects are being supported in the field of speech disorders and related subjects which offer considerable hope in the further understanding of this complex area. In one such study, investigators fabricated a larynx of tubing and were able to film the various movements of this larynx. They suggest that the shape of a thyroid muscle may determine the frequency of vibration of the vocal cords.

PHOTOSYNTHESIS

(Continued from Page 5)

of this emitted light help to identify the metabolic changes taking place in the cells.

The new instrument is known as a rapid scanning microspectrofluorimeter, and can scan the spectra of the emitted light as rapidly as once a second. Because of this, it can follow changes in the spectra that are much too rapid to be recorded by other techniques. The details of the new instrument appear in the August issue of the *Review of Scientific Instruments*.

The development of this instrument points up one of the important aspects of using fluorescent material to study metabolic reactions. With such material one can study a metabolic process at its input and can obtain reaction rates with relative simplicity, since the exciter, i.e., the light, can easily be supplied or removed at rapid speeds. This is a difficult if not impossible task in other biochemical systems where, for instance, a metabolite cannot be instantly removed after it has been added.

Valuable Results Produced

These NIAMD studies of photosynthesis, only a small part of the Institute's total research in physical biology, have produced three valuable results.

First, the studies provide a means for studying energy transfer in a biological system where the input energy can be measured exactly; second, they provide a convenient system for studying the synthesis of porphyrin compounds, compounds which include, in addition to chlorophyll, the heme in hemoglobin as well as the various cytochromes that play a vital role in cell metabolism; and third, the studies are leading to development of specialized tools needed for biophysical research.

55 Institutions Benefit From 66 New Grants

PHS Surgeon General Burney recently announced approval of 66 grants totaling \$21,987,153 to help build and equip additional health research facilities in 55 institutions in 30 States.

The grants are the first to be awarded from appropriations for fiscal year 1961.

Established as a three-year program in 1956, the Health Research Facilities Program awards funds on a matching basis to public and private nonprofit hospitals, medical and dental schools, schools of public health, and other research institutions. Because of the continuing need for expansion and improvement of the Nation's facilities for medical research, the program was extended for an additional three years, through fiscal year 1962.

Uveitis Data Collection Supported by NINDB

In a new approach to the problem of uveitis leading ophthalmologists attending a conference supported by National Institute of Neurological Diseases and Blindness have organized and initiated a pilot study for analyzing records of uveitis patients.

The initial study, which will include some 500 case histories, will be used in organizing a larger project to be conducted at four major eye clinics. Analysis of numerous case histories may provide a basis for determining possible causes, means of prevention, and cures for the blinding disease.

Conference participants also evaluated a proposed classification system for uveitis and retinitis. To determine its practical value, they suggested that the system be used for a year by clinicians working in these disease areas.

Dr. Alton E. Braley of the State University of Iowa, a member of the NINDB Advisory Council, was chairman of the conference.

Canadian Group Cites Arctic Physiologist

Recognition from Canada has come to a U.S. Public Health Service scientist, Dr. Laurence Irving, Chief Physiologist at the Arctic Health Research Center, with his election to honorary membership in the Canadian Physiological Society.

The Society cited his work in Canada and the close association he maintains with Canadian physiologists, especially in the field of environmental physiology.

During his 12 years at the AHRC in Anchorage, Alaska—northernmost research station of the USPHS—he has studied the physiology of arctic birds, marine mammals, hogs, and man, combining his two specialties, ornithology and physiology.

METABOLISM

(Continued from Page 5)

had skeletal anomalies. Post-mortem examination, performed in two cases, revealed nerve cell loss in the cerebral and cerebellar cortex, and astrocytosis and cystic degeneration of the cerebral white matter.

Extensive biochemical studies of urine, cerebrospinal fluid, and blood were conducted to detect possible metabolic defects. However, all tests were within normal limits and no abnormal metabolites or altered amounts of normal metabolites were found. As in similar conditions where metabolic defects are suspected but cannot be defined, further study with new and improved techniques may eventually prove successful.

NIH Spotlight

On meeting Dr. Marie U. Nylen one would never suspect that she is an internationally known scientist, famed for her studies of the production and maturation of the organic matrices of enamel and dentin.

Even against the background of the Laboratory of Histology and Pathology, NIDR, of which she is a staff member, this sun-tanned, dancing-eyed young woman looks more like the badminton champion she was not too long ago.

Dr. Nylen is still an active member of the District of Columbia Badminton Club and regrets that the absorbing nature of her work, together with her duties as a wife and mother, make it impossible for her to give more time to her favorite sport.

Wins Many Titles

She was women's badminton champion of the District of Columbia in 1950 and 1951 and also won the New England championship in 1951. Previously she was four times co-winner of the women's doubles championship of Denmark, and in 1947 and 1952 held the unofficial women's world singles championship.

Recalling her experiences in the badminton tournaments, she said with her engaging smile, "They were so much fun! Everywhere I went people were so nice to me and showed me such good times!"

But Dr. Nylen's scientific renown far exceeds her reputation as an athlete. How this happened, especially in view of her association with NIH, is interesting.

Comes to NIH

Dr. Nylen first came to the United States from her native Denmark in the summer of 1949 on a two-month visit to a friend in Washington. During her stay she called on one of her former professors from the Royal Dental College of the University of Copenhagen, who at that time was a Visiting Scientist here in the National Institute of Dental Research.

He interested her in the possibility of obtaining special training at NIH. As a result, she applied for and received a Postdoctoral Fellowship in dentistry from NIDR and trained here from 1950 to 1951 in the use of electron microscopy and diffraction in studies of calcified tissues of the mouth.

Among her early contributions to this new and unique field of dental research was the perfection of a modified microtome capable of producing high quality ultrathin sections of dental tissues for electron microscope study.

Military Surgeons Set Annual Convention Date

Over 2,000 physicians, dentists, veterinarians, nurses, and medical specialists from the United States and abroad are expected to attend the 67th Annual Convention of the Association of Military Surgeons at the Mayflower Hotel in Washington, October 30 through November 2.

The theme of the convention will be "The Military Role in Medical Progress." Among those participating prominently in the meetings will be PHS Surgeon General Burney, the Association's First Vice President; and Representative Fogarty of Rhode Island.

The program will consist of lectures and panel discussions with special section meetings and discussions for dentists, nurses, medical specialists, and veterinarians. Technical and scientific exhibits and films will be shown in conjunction with the meetings.

Registration without fee will begin at 1 p.m., October 30, and reserve officers attending the meetings may register for credit points.



Dr. Nylen in her laboratory.

Development of this instrument, capable of cutting sections 1/50,000 of a mm. in thickness, permitted the study of hitherto unobserved structures of cells which form enamel and dentin.

After her year at NIH, Dr. Nylen returned to Copenhagen where she was an assistant professor in oral diagnosis at her alma mater for two years. However, the lure of life in the United States was too strong for her, and in 1955 she came back to Bethesda to join the staff of NIDR. She became an American citizen last May.

Today, Dr. Nylen is world-famed for her organic matrix studies. Her work in this field led to the publication of an atlas, reporting one of the first embryological studies of dental tissues made at the electron microscope level. Because of its breadth and systematic approach to an understanding of dental histogenesis, this publication has been enthusiastically re-

Origins of Research Equipment Exhibit Go Back to One-Company Show in '49

A one-day, one-company display in a conference room in Building T-6 on June 3, 1949 marked the beginning of the NIH Annual Research Equipment Exhibit, now in its tenth year and accommodating 120 manufacturers' exhibits.

EQUIPMENT

(Continued from Page 1)

including an electronic counter, a physiological gas analyzer, a fluorescent microscope, a robot chemist, a recording balancer, and a nitrogen analyzer.

The exhibit will be open daily from 11 a.m. until 5 p.m., and on October 6 will remain open until 9 p.m.

Dr. Shannon to Speak

The symposium, which will be opened at 8 p.m., October 3, by Dr. Shannon, will feature nationally known scientists who will present papers on subjects of current research interest in their specialties. These will include infrared spectrophotometry, activation analysis, ultracentrifugation and electrophoresis, microscopy, and membrane electrodes.

Presiding officer at the first session will be Dr. Sidney Udenfriend, Chief, Laboratory of Biochemistry, NHI, who will discuss the biological aspects of fluorescence. Scientific meetings will continue with two sessions daily, at 2 and 8 p.m. The final session will be at 2 p.m., October 6.

Sponsors of the symposium are the American Association of Clinical Chemists, the American Chemical Society, the Instrument Society of America, the Society of Applied Spectroscopy, the Society of American Bacteriologists, and the Society for Experimental Biology and Medicine.

James B. Davis, Chief, Supply Management Branch, represents NIH on both the Symposium Committee and the Committee of Manufacturers' Representatives — as executive secretary and exhibit manager, respectively.

ceived by teachers both in the U.S. and abroad.

Other technical advances associated with Dr. Nylen's work have included important techniques for the preparation and imbedding of specimens for electron microscopy and specimen preparation for microradiography. She has also contributed to the scientific literature in many related areas, including basic studies of the mechanism of mineralization, using other calcifying systems such as tendon, reconstituted collagen, and calculus.

Dr. Nylen lives in Washington with her husband Aage, a former Norwegian citizen, who is purchasing agent for the Statler-Hilton Hotel, and her year-old son Erik, and three-year-old daughter Ingrid.

That first small exhibit stemmed from the interest of James B. Davis, Chief of the Supply Management Branch, OAM, in some new radiation equipment which he considered potentially useful in NIH laboratories. Forty NIH scientists came to see that display.



Mr. Davis

During the following year 18 similar one-day exhibits were held, with attendance varying from 20 to 300.

By this time the continuing value of these events was obvious, and Mr. Davis organized the first of the annual exhibits, combining entries from all interested manufacturers.

The exhibit in May of 1951 included 35 displays set up in Stone House and Wilson Hall.

Introduces Symposium

At the time of the fourth annual exhibit, in 1954, Mr. Davis introduced a symposium, at which 12 papers on scientific instrument techniques were presented.

In September of last year Mr. Davis received a commendation for his contribution to NIH "in the initiation and development of the Annual Research Equipment Exhibit."

In an accompanying letter Dr. Shannon said, "By providing a meeting place where scientists could inspect and evaluate the newest developments in the tools of research, the exhibits have made it possible for them to keep abreast of changes, refinements, and new approaches . . . taking place at a staggering rate."

CHAPLAINS

(Continued from Page 2)

chaplain remains with the patient's relatives, if they are present. This helps allay their fears during the hours that are the peak of their stress period.

All services may be heard via bedside radio by patients who cannot go to the chapel. The services are carried over WNIH, the NIH limited frequency station.

All three of the clergymen are extremely conscious of the tremendous importance of religion in the process of healing. As Chaplain Andrew points out, the words "salvation" and "healing" stem from the same root—"to be made whole."

FLOOD DAMAGE

(Continued from Page 1)

the ground floor and has no basement. In an 8-inch stream it poured from under this floor into the pit beneath the steam-driven emergency generator, and it flooded to a depth of two feet the 3½-foot pit housing the supervisory cables of the electrical distribution network, threatening to short-circuit the entire system.

The water also penetrated to the basement beneath the heating plant, which occupies the other half of the ground floor, and it broke through a retaining wall to the west of the building.

Floor Cave-in Feared

But the grave danger lay within the refrigeration area, which houses an impressive array of heavy equipment: three 13,200-volt transformers, seven centrifugal refrigeration compressors, each with a 1,050-ton refrigeration capacity and each driven by a 1,250 horsepower motor; two big air compressors that supply all of NIH, and a 4,000-kilowatt steam-driven emergency generator.

The possibility of damage to this heavy equipment from a weakening of the floor and resultant cave-in, and the threat of a blackout of the electrical system were the chief concerns of those who waged the 5-hour fight.

First word of the flooding came from Glenn St. Johns, operating engineer in charge of the night shift, who notified the NIH Fire Department in nearby Building 12, which in turn notified the Guard Force headquarters in the Clinical Center.

Firemen Start Pumping

Within minutes the two firemen on duty, Charles Poole and Vincent Napoli, had their hose lines laid and their big pumper in operation, sucking water out of the flooded trench and dumping it into the nearby storm sewers at a rate of 1,000 gallons per minute.

At the same time Sgts. Kenneth Startin and Monroe Sherman of the Guard Force arrived on the scene. Using the Building 12 and 11 phones they began placing the series of emergency calls that routed many a sleepy man out of bed and brought him poste haste to the threatened area.

Shortly before 1 a.m. they began coming in, arriving at intervals, some only a few minutes apart: Reynold R. Holliday, Chief of the Plant Engineering Branch; Norman Anders, Chief of the NIH Fire Department, and Assistant Chief Charles Keys; John R. Leach, Assistant Chief, Plant Safety Branch; Milford D. Myers, Chief, Grounds Maintenance Section; A. E. Williamson, Chief, Research Facilities Planning Branch; George McGuire,

THE WATER HERE WAS TEN FEET



ON THE MORNING AFTER the flooding of the pipeline trench, the section extending to the north wall of the power plant (Bldg. 11) looked like this. It was through this portion of the wall that the water penetrated. Note the debris from dislocated shoring and the high-water mark, indicated by the top line of the lighter earth on the bank at right.

Assistant Chief, Maintenance Engineering Section; Charles Dove, Engineering Equipment Operator, Grounds Maintenance Section; Wilbur Hickok, Fixed Industrial Equipment Operator Foreman, Heating Plant Unit; Emory Byrum of the Electrical Shop, and others.

It soon became evident that the NIH pumper alone could not control the rising water, and Chief Anders put in a call to the Rockville Volunteer Fire Department, requesting the loan of one of its pumpers. He dispatched two of his men, Milton Mullican and John Wassell, who live in Rockville and are also members of that department, to bring the pumper in.

Meanwhile, two 150-gallon-per-minute portable pumps were placed in use, and smaller electrical pumps were employed inside the power plant.

Rockville Pumper Arrives

The Rockville pumper, with a 500-gallon-per-minute capacity, arrived and was put into operation at 2:25 a.m. The outside pumpers used, in all, 400 feet of 2½-inch and 200 feet of 1½-inch hose lines.

But the flooding, though under control, continued.

At 3:47, Mr. Holliday, conferring with NIH officials and Angelo Scioscia, representing Venneri Construction Co., gave the order to dam up the trench. This was done by bulldozing excavated earth into the trench at a point about 200 feet from the power plant, just north of the temporary bridge to

Building 12.

By this means the flow of water from the remainder of the long trench was cut off and the pumpers were able to evacuate the water from the section adjacent to the power plant.

It was estimated that during the hours of operation the pumpers transferred about 300,000 gallons of water from the pipeline trench into the storm sewers.

Damage Cited

In his report of August 8 to Chris Hansen, Chief of the Division of Research Services, Mr. Holliday said:

"Subsequent inspection of the area indicates that some washout damage may have been done (1) under the floor of the refrigeration plant; (2) under the paving adjacent to the northeast corner of Building 11; (3) to the waterproofing around the northeast corner of Building 11 foundation. The contractor's excavation site was extensively damaged."

He also stated that "The action taken . . . no doubt prevented the loss of electrical power to areas of NIH and extensive damage to the floor of the refrigeration plant."

Representatives of the Public Buildings Service, GSA, who were notified at 3:10 a.m. and shortly after arrived at the scene, were Otis Waldrop, Clyde Keys, Andrew Girolami, and Roy O'Brien.

The action of DRS staff and other NIH personnel in coping

Charles Miller Named To New Post Here

Charles Miller, Assistant to the Director of Administration, Office of the Secretary, DHEW, has been named to the newly created post of Chief of the Management Policy Branch, OAM. The appointment was effective August 15.

Mr. Miller had held his prior position since December 1957. Previously he was engaged in management analysis work with the Bureau of Old Age and Survivors Insurance, Social Security Administration, for a period of seven years.



Mr. Miller

A native of Philadelphia, he was graduated *cum laude* from Princeton University in 1947 and received his M.A. degree in political science from the University of Pennsylvania in 1948.

During World War II he served as a lieutenant in the U.S. Army.

Mr. Miller is married and has a son and four daughters. He is a resident of Silver Spring.

Dale Kloak Transfers To Post in Baltimore

Dale Kloak, who has been Assistant Chief of the Publications and Reports Section, NIMH, since she came here nearly five years ago, has resigned to accept a position with the Social Security Administration, DHEW, in Baltimore.

Her new work is in the Office of Information of the Bureau of Old Age and Survivors Insurance,



Mrs. Kloak

where she will be dealing particularly with disability insurance.

Before coming to NIH, Mrs. Kloak had served for seven years as Chief of the Information Division of the Women's Bureau, U.S. Department of Labor, and previously had held other positions in the Labor Department.

An informal party was given in her honor on August 3 at the Navy Officers Club, and members of the P & R Section gave a farewell luncheon for her on August 2. She assumed her new duties on August 8 and is commuting to Baltimore from her home in Silver Spring.

with this emergency was reported and commended in the morning report of August 5 from NIH to the Office of the Surgeon General, PHS, for transmittal to the Secretary, DHEW.