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NATIONAL INSTITUTES OF HEALTH
PUBLIC HEALTH SERVICE

Sudbury, Mass., Is Giant Testing Lab For PHS Study

The Public Health Service recently announced that the town of Sudbury, Mass., will become a giant testing laboratory for one of the largest studies of arthritis and related diseases ever conducted.

Between January 20 and the end of April, all residents over the age of 15 will be asked to undergo a 15-minute test to provide data for a massive PHS study of rheumatoid arthritis, gouty arthritis, and diabetes mellitus.

Full Participation Sought

If this urban community of 10,000 near Boston achieves 100 percent participation, over 6,000 adult citizens will take simple blood tests for sugar, uric acid, and rheumatoid factor during the next three months.

After the initial testing period is over, 15 percent of the participants will be invited to return on

(See *TESTING LAB*, Page 5)

Biologist Robert Blackburn Uses Hobby In Rescuing Spelunker Near Luray, Va.

By Faye Heil

Spelunking is an exciting year-round hobby for Robert Blackburn, a biologist with the Division of Biologics Standards and a member of the National Speleological Society for the past four years.

However, he found his hobby a little too exciting one day in December when he was called to rescue an amateur cave explorer trapped in a 50-foot crevice in a cavern near Luray, Va.

Mr. Blackburn was visiting his family in New Market, Va., when he was called to the Will Mauck Cave, near the Shenandoah River about four miles northwest of Luray. Arriving at the cave he learned that John Behrman, 20, had fallen while attempting to cross a pit in the cave by walking on flow stone protrusions in the cave wall.

Mr. Blackburn, descending into the pit on a rope, discovered young Mr. Behrman had sustained a fractured wrist and multiple lacerations of the head and face. Finding the injured youth free of chest and leg injuries, Mr. Blackburn tied

(See *RESCUE*, Page 3)

Israeli Dental School to Have Home for Unusual Research



The Hadassah School of Dentistry's new building (right), to be completed late next summer, is located on the campus of Hebrew University at Ein Karem, near Jerusalem.—Photo by David Rubinger, Jerusalem.

By Lee Lowry

Outside of New Jerusalem, on flat brush-covered land near the village where John the Baptist was born, stands the prospective home of the Hadassah School of Dentistry, the only dental school in Israel.

The spacious new building, scheduled for completion in August, is being constructed with funds from an American professional fraternity. It will be a part of Hebrew University, located in the village

of Ein Karem.

Meanwhile, the dental school has for years been using classrooms in the university's medical center for the instruction of dental students from many national groups who have immigrated to Israel.

Dr. Ino Sciaky, the school's founder and director, described its work and the progress of dental research in Israel in a recent seminar at the Dental Institute here.

The population of Israel makes research opportunities there unique. Dental conditions of genetic isolates living in racial communi-

(Continued on Page 4)

Smoking & Health Summary Appears in HEW Magazine

A condensed version of the Summaries and Conclusions portion (Chapter 4) of *Smoking and Health*, the recently published report of the Surgeon General's Advisory Committee, will be published in the current (February) issue of *HEW Indicators*, according to the editor, Eugenia Sullivan.

Four thousand copies of this condensed version are also being printed to fulfill requests previously received by the Public Health Service.

French Biochemist Is NIH Lecturer On February 19

Jacques Monod, the internationally distinguished French biochemist, Chief of Service at the Pasteur Institute and Professor of Biochemistry at the University of Paris, will deliver the 26th NIH Lecture on Wednesday, February 19. Titled "Controlling Elements and Regulatory Circuits in Cellular Metabolism," the lecture is scheduled for 8:15 p.m. in the Clinical Center auditorium.



Dr. Monod

Dr. Monod's subject is cellular metabolism—the constant building up, tearing down and interaction of almost all the chemical components of the cell. Metabolism involves the conversion of food elements into energy required for life processes, and an understanding of it is basic to modern biology.

Reactions Interrelated

Literally hundreds of reactions comprise metabolism in most cells, and these reactions are interrelated. The chemical product of one process is the starting material for another, or it may modify the course of a third. Dr. Monod and his co-workers at the Pasteur Institute are responsible for many of the current widely held theories of how complexes of reactions are controlled.

Dr. Monod, who received his Ph.D. from the University of Paris in 1941, has made outstanding contributions to research, both in metabolic regulation and biochemical genetics.

Advises Salk Institute

In addition to his duties at the Pasteur Institute and the University of Paris, Dr. Monod is a scientific advisor to the Salk Institute and a member of the editorial boards of several important scientific journals, including the famous international journal, *Biochimica et Biophysica Acta*.



Robert Blackburn, Division of Biologics Standards biologist, climbs out of entrance to Aqua Cave in Bath County, Va.—Photo by Lyle Conrad.

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Unique Study of Quadruplets Reveals New Findings on Schizophrenia Causes

New findings on the causes of schizophrenia have been published in a unique study of identical quadruplets by a team of National Institute of Mental Health scientists.

The rare case, probable in one birth in one and one-half billion, is the only one of its kind in medical history.

It offered researchers an unusual opportunity "to evaluate hereditary and environmental factors" in the disease, according to Dr. David Rosenthal, NIMH Research Psychologist, and editor of the new volume, "The Genain Quadruplets," a disguised name.

The girls, who appeared on the surface to develop normally through school, became mentally ill in their twenties. They entered the Clinical Center where 60 researchers studied and tested them and their parents for three years.

Study Continues

After discharge, the study continued for five more years and still is going on. One of the quadruplets recovered, married, and has just had a child. Another has recovered enough to return home; two remain in a mental hospital.

Piece by piece, the scientists unfolded the life the quadruplets had led. The father drank heavily, and abused and frightened the girls. The mother was domineering, censorious, and permitted the girls few outside contacts. "An atmosphere of fear, suspicion, and distrust . . . permeated the house," according to the researchers.

Dr. Rosenthal said that "in most cases an inherited factor needs to be present for schizophrenia to develop. However, without severe environmental stresses, the illness may not appear in those who have

a predisposition to it."

The quadruplets and the father shared a similar abnormal electroencephalographic pattern. The father's family had a history of psychiatric disease.

But Dr. Rosenthal added that "the severity and the outcome of the girls' illnesses were influenced mainly by environmental factors, in particular by the difficult intra-family relationships."

Prenatal Conditions Important

Prenatal conditions also may have played a role.

Dr. Nancy Bayley, Chief of the Section on Early Development, Laboratory of Psychology, NIMH, and one of 25 investigators whose writings are included in the new volume, wrote:

"One is tempted to hypothesize that . . . differences in nutrients during their fetal life may have determined differential rates and adequacies of physical development . . . such that they continued to be manifested throughout childhood. Possibly the girls were treated differently because of observed differences."

Tryouts Scheduled Soon for 'Flower Drum Song'

Tryouts for the spring production of "Flower Drum Song" will be held in the Clinical Center, February 16-20.

The musical comedy, to be directed by Arnold Sperling, Head of the CC Patients' Activities Section, will be presented here in late April or early May by the NIH dramatic group which is sponsored by the Recreation and Welfare Association of NIH.

Tryouts will be held Sunday,

Sjoerd Bonting Receives Flemming Award Feb. 13

Dr. Sjoerd L. Bonting, 38, Head of the Section on Cell Biology in the Ophthalmology Branch, National Institute of Neurological Diseases and Blindness, is one of 10 outstanding young men in Government career service named to receive the Arthur S. Flemming Awards for 1963. The awards will be presented at a luncheon next Thursday at the Statler-Hilton Hotel in Washington.

The award program, established in 1948 by the Downtown Chapter of the D. C. Junior Chamber of Commerce, aims "to encourage high standards of personal performance, attract capable young men to government service, and promote confidence in our form of government and the opportunities it presents."

The Record will publish additional information about Dr. Bonting and the awards program in the next issue.

CU Board of Directors Votes Interest Refund

The NIH Federal Credit Union reports that at its January board meeting, the Board of Directors declared a 5 percent interest refund for all members who paid interest on a loan during 1963 and had an open account on December 31, 1963.

O. J. Wood, CU Manager, said the fact that a loan was paid in full prior to December 31 will not prevent a member from receiving this refund. Interest refunds, he said, will be posted to share accounts shortly.

Meanwhile, four and three new members, respectively, were elected to the Board of Directors and the Credit Committee at the 24th annual membership meeting. Elected to 2-year terms were:

Board of Directors—Robert H. Grant, OIR; Ervin J. Liljegren, NIAMD; Dr. Harold P. Morris, NCI; and Dr. William B. DeWitt, NIAID.

Credit Committee—William B. Page, DRFR; Ruth J. Metka, CC; and Virginia B. Porter, NHI.

It was also announced that the 4.6 percent per annum dividend for 1963 was credited to members' accounts January 5.

Clinical Evaluation Of Anti-Leprosy Drug Presented

In a departure from custom, two Clinical Center leprosy patients and a clinical evaluation of the phenazine derivative, B. 663, used in their treatment, were presented



Dr. Binford



Dr. Knight

at a recent NIAID Grand Rounds on the Pathology of Leprosy.

These events were part of a program at which Dr. Chapman H. Binford, Medical Director of the Leonard Wood Memorial (American Leprosy Foundation) and Chief of the Leprosy Branch, Armed Forces Institute of Pathology, was the guest lecturer.

Leprosy Patients Introduced

Dr. Vernon Knight, Chief of NIAID's Laboratory of Clinical Investigations which sponsors the Grand Rounds, introduced the two leprosy patients—adult male Mexican citizens—who are participating in a preliminary study to define the properties of a new leprosy-suppressive drug as therapy in humans.

Recognized as one of the Nation's leading pathologists specializing in leprosy, Dr. Binford, a retired PHS Medical Officer, noted that although leprosy is not really a tropical disease, warm weather provides favorable conditions for dissemination of the infection.

But even in a warm climate, he pointed out, a period of three years

(See ANTI-LEPROSY, Page 6)

Dr. Sarnoff to Deliver Henry Jackson Lecture

Dr. Stanley J. Sarnoff, Chief of the National Heart Institute's Laboratory of Cardiovascular Physiology, will deliver the annual Henry Jackson Lecture to the New England Cardiovascular Society on March 9 at Science Park in Boston. Title of the lecture will be "The Adaptability of the Heart."

The lecture will be preceded by a dinner at the Harvard Club in honor of Dr. Sarnoff. Planning to attend the dinner are officers of the New England Cardiovascular Society, the Massachusetts Heart Association, and the Greater Boston Chapter of the Massachusetts Heart Association.

NIAID Investigators Find Substantial, Short-Term Protection Against Colds

National Institute of Allergy and Infectious Diseases virologists have uncovered evidence of an unexplained mechanism which appears to afford substantial, albeit short-term, protection from common cold induced by rhinovirus infection.

The disease-resistant effect is apparently not associated with serum antibody production.

After inoculation with three strains of rhinovirus, 38 of 57 volunteers acquired common cold syndromes lasting two or three days. Shedding of virus was detected in nose-throat washings from 47 volunteers and, in most cases, persisted for one to two weeks.

According to a sensitive, easily reproducible test using low doses of virus, 47 volunteers showed a four-fold or greater rise in neutralizing antibody titers.

Evidence Observed

As evidence that rhinovirus caused the infections, the investigators observed that illnesses decreased in frequency and severity as titers of naturally acquired neutralizing antibody rose.

Several illnesses and frequent virus shedding indicated that antibody protection was limited, however.

Nevertheless, one month later, when induced antibody levels were relatively low, the volunteers were rechallenged with the same viral strains and exhibited complete resistance to illness, with almost no virus shedding.

The investigators noted that present evidence suggests this unexpected resistance is of brief duration.

These findings were reported by Drs. Thomas R. Cate, Robert B. Couch, and Karl M. Johnson in the *Journal of Clinical Investigation*.

RESCUE

(Continued from Page 1)

him into a stretcher and gave the word for it to be raised.

"Everything went well," he recalled, "until, about half way up, the stretcher caught on a rock shelf."

Repeated attempts to get the stretcher past the shelf failed. As a last resort, Mr. Blackburn tied the rope around the victim's chest, and with Miller Price, a fellow spelunker, directing the operation at the top of the pit, the injured youth was raised to safety.

The whole operation took about two hours. Mr. Blackburn said he was glad to be able to help with the rescue but hopes he won't have to do it again. Since the National Speleological Society was founded in 1939, he said, only two members

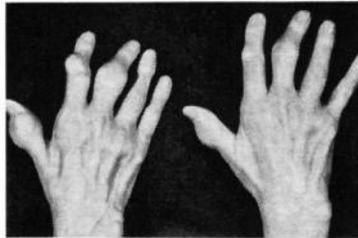
Plastics Units Here Develop Variety of Devices for Use in Intramural Research

By Bob Walters

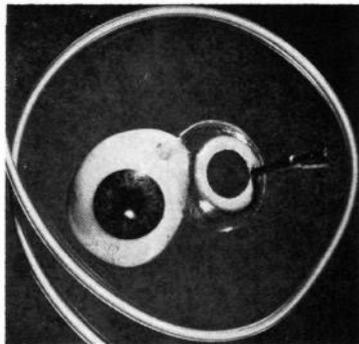
Heart valves, models of arthritic hands, and plastics that conduct electricity represent just some of the capabilities in the field of plastics that are available to NIH intramural research programs.

These capabilities are centered in two Plastics Units of the Division of Research Services—one in the Instrument Engineering and Development Branch, with John W. Boretos in charge; the other in the Medical Arts and Photography Branch, headed by Phillip R. Joram.

One development in IEDB's



These plastic models of hands, prepared by the Plastics Unit of the Medical Arts and Photography Branch, were made three years apart (left to right). They show improvement in one patient as a result of treatment of gouty arthritis with uricosuric agents.—Photo by Thomas Joy.



An electrode made from conductive elastomer by the Plastics Unit of the Instrument Engineering and Development Branch is shown next to a plastic eyeball for comparison. This plastic material, which conducts electricity, has been shaped to fit the eyeball for measuring electrical potentials at the surface of the eye.—Photo by Jerry Hecht.

have been fatally injured.

He estimates membership in the NSS numbers about three or four thousand. There are similar societies in England, Australia, Japan, and France.

Spelunkers, he said, are interested in the natural sciences that can be studied in caves, such as biology, geology, meteorology, and hydrology.

Mr. Blackburn has other hobbies—he works with a Boy Scout troop and he likes photography and woodworking, but he says that he is most fascinated by the caves he explores.

Plastics Unit which has wide application in biomedical research is a material possessing the resilient properties of an elastic, rubber-like substance and some of the electrical properties of metal.

Called conductive elastomer, this material conducts electricity, can be formed into any shape or contour and retain that shape, but at the same time is soft and flexible so as not to injure delicate parts or body organs.

Metal Eliminated

Thus, it eliminates the mechanical disadvantages of a metal, as in making electrical measurements from living tissue, while maintaining good electrical properties.

One of its first applications was in producing an electrode in contact with the eyeball for use in measuring the electrical potential at the surface of the eye.

In another project the unit was called upon to furnish a means for electrically exploring large areas of the cortical surface of the brain.

For this purpose it developed a new electrode device which consists of a fine sheet of transparent plastic with 36 electrode terminal points and their connecting wires.

The plastic is only ¼ mil (.00025 inch) thick. The electrodes, spaced one centimeter apart, were etched onto the plastic by a technique similar to that used in printed circuit production.

Contact Assured

Due to the thinness of the plastic sheet, it clings tightly to the surface of the exposed brain, assuring good electrical contact at the many electrode points, and permits evaluation of signals from a comparatively large area of the cortex over an extended period of time.

A previous technique employed individual electrodes, and it was necessary to repeat a laborious and time-consuming electrode positioning procedure in order to electrically explore an adjacent cortical area.

A continuing project of the IEDB unit has centered around the development of prosthetic heart valves. During the past three years, in collaboration with heart surgeons, many designs utilizing various plastic polymers have been investigated.

At present, work continues on the investigation of different materials in relation to resistance to flexing fatigue and the effect they have on blood clotting.

(See *PLASTICS*, Page 7)

NIMH Director Wins 2-Star Rank in Line With Responsibilities

Surgeon General Luther L. Terry of the Public Health Service has announced the promotion of Dr. Robert H. Felix, Assistant Surgeon General and Director of the National Institute of Mental Health, to the 2-star rank which is comparable to that of Major General in the Army. He formerly held the 1-star rank, equivalent to Brigadier General.



Dr. Felix

According to the surgeon general the promotion of Dr. Felix indicates the expanded responsibilities of the National Institute of Mental Health as the focal point of leadership and coordination for the mental health program of the Service.

New Goals Cited

The broadened scope of his position reflects the Nation's new mental health goals, including reduction of the resident patient population of our public mental hospitals by 50 percent or more in the next decade, elimination of custodial-type mental institutions from the American scene, and return of the care of the mentally ill to the mainstream of American medicine.

Dr. Felix joined the PHS Commissioned Corps in 1933. From then until 1941 he was Clinical Director of the Medical Center for Federal Prisoners, and Clinical Director and Executive Officer of the U.S. Public Health Service Hospital in Lexington, Ky.

During the war, Dr. Felix served as psychiatrist and senior medical officer with the U.S. Coast Guard Academy at New London, Conn. Returning to the Public Health Service in 1944, he served first as Assistant Chief of the Division of Hospitals in the Bureau of Medical Services and was then appointed Chief of the Bureau of Mental Hygiene.

Director Since 1949

When this bureau became the National Institute of Mental Health in 1949, Dr. Felix was made director, a position he has held ever since.

A native of Downs in Osborne County, Kans., and the son of a physician, Dr. Felix attended the University of Colorado where he obtained his degree in medicine in 1930. Awarded a Commonwealth Fund Fellowship, he received his psychiatric training at Colorado Psychopathic Hospital. He graduated from Johns Hopkins University in 1942 with a Master of Public Health degree.

Home for Unusual Research

(Continued from Page 1)

ties in Israel are of particular interest.

Medical and dental records are unusually thorough, while the people are extremely diverse. Inbred for centuries in their native countries, they have now immigrated in large numbers to a new country and a new culture.

"Such population groups provide interesting possibilities for studying how cultural habits, nutrition, and medical and dental hygiene influence growth and health," Dr. Sciaky pointed out. "Dental scientists have made some preliminary observations about caries, periodontal disease, maturation rates, and birth anomalies," he said.

Building Problems Created

The population immigration which makes research opportunities unique also creates building problems. Dr. Sciaky commented, "The dental school was built in a country where doing things the difficult way is the rule and you worry when things go smoothly."

The Hebrew University Hadassah School of Dentistry was born out of the Arab-Israeli conflict in 1948, when access to the Mt. Scopus Medical Center and University was denied to the Israelis. Mt. Scopus Center, founded in 1925, was isolated in Jordanian territory in 1948 and can be reached today only by United Nations-escorted convoys.

The dental school was started in 1953 by Dr. Sciaky, a teacher, researcher, and patriot.

Born in Greece and educated at the University of Geneva, Dr. Sciaky had come to Israel in 1938 to practice dentistry. In 1948, he interrupted private dental practice to join the army, served in uniform until 1950, and then resumed the practice of dentistry in Jerusalem.

Half of Dentists Women

A survey in the country revealed to Dr. Sciaky that half the dentists of Israel were women and that the average age of dentists in the country was 55.

Economic and psychological problems had accompanied immigration from a dozen countries. Training did not exist. Graduate training for immigrating dentists would be needed.

Dr. Sciaky opened the dental school with a clinical faculty. Instruction began with clinical courses, and basic science courses were added as teachers and classrooms in the university's medical center became available.

The dental school will be without classrooms and laboratories until construction of its building is completed with funds from the Alpha Omega Fraternity in the

United States.

Each class numbers 20 to 25 students. Novel problems have to be faced, since aptitude tests, Dr. Sciaky says, are not always reliable in different ethnic groups. Each class at graduation is larger than when it entered, because dental students who immigrate to the country matriculate.

Students are from many racial communities in Israel, including population isolates such as Arabs, Bahai, Druses, Kutchins, Sephardic Jews, Ashkenazis, and Jews from



Dr. Robert Likins of the Dental Institute (left), one of a team of NIH scientists that visited Israel last year, stands outside the Hadassah School of Dentistry's uncompleted building with Dr. Ino Sciaky, the dental school's founder and director.

Yemen, Morocco, Libya, and Tunisia. Fifteen nationalities are represented on the faculty of Hadassah School of Dentistry.

"To orient the researcher and practicing dentist to an understanding that restorative dentistry is late so far as the health of a patient is concerned," Dr. Sciaky said, "we emphasize preventive dentistry and better diagnosis.

"Dental students are taught to treat a patient as a whole person to whom oral function must be restored if disease or malformation makes orthodontic, prosthodontic, or restorative dentistry necessary."

Arranges for Research

Dr. Sciaky, who maintains a laboratory to conduct research himself, has arranged for Hadassah students to study basic science in the medical school and to conduct laboratory exercises on research problems related to dentistry.

Dr. Sciaky was visited in 1963 by a team of NIH scientists and consultants interested in dental, genetic, and anthropological research.

The group included Dr. Robert C. Likins, Chief of NIDR's Extramural Programs Branch; Dr. Albert L. Russell, Chief of the Epidemiology and Biometry Branch of the Dental Institute, and NIDR grantees, Dr. Joseph F. Volker, Vice President for Health Affairs

New Brochure Describes Programs Supported by Child Health Institute

A new publication describing the types of research and training programs it supports has been made available by the National Institute of Child Health and Human Development.

The publication, entitled "Research and Training Programs of the National Institute of Child Health and Human Development," is designed primarily for the information of scientific investigators, graduate students, and others interested in obtaining support from the Institute.

Established in January 1963, the Institute has focused its attention on the complex health problems and requirements of the whole person rather than on any one disease or part of the body.

Promotes Understanding

Through support of research in biological, behavioral, and clinical sciences, it hopes to promote better understanding of normal and abnormal developmental processes in human beings of all ages.

The Institute has a special interest in such areas as mental retardation, perinatal biology, reproductive biology, growth and development, developmental pharmacology and teratology, and the processes of aging.

Single copies of the publication (PHS Publication No. 1099) may be obtained from the Information Office, National Institute of Child Health and Human Development, Bethesda, Md. 20014.

of the University of Alabama, and Dr. W. M. Krogman, Professor of Physical Anthropology of the University of Pennsylvania. Clifton Metzner, of the Paris Office of the NIH Office of International Research, accompanied the group.

After visiting in Israel, Dr. Volker, chairman of the visiting group, reported that a unique opportunity for collaborative research exists, since present day Israel contains population groups with potential for research, appropriate research facilities, a wide spectrum of scientific competencies, and professional and administrative staffs wishing to cooperate in the direction of research.

Adey Appointed to Committee

Surgeon General Luther L. Terry of the Public Health Service has announced the appointment of Dr. William Ross Adey, Professor of Anatomy and Physiology, University of California School of Medicine, Los Angeles, Calif., to the National Advisory Research Resources Committee for a term ending September 30, 1966.

NIAID Scientists Report Technique for Study of Streptococcal M Antigen

Scientists from the National Institute of Allergy and Infectious Diseases are using immunofluorescent techniques to study protein directly at cellular level.

Streptococcal M antigen, an alcohol-soluble protein of low molecular weight, is responsible for type specificity of Group A streptococci and is related to streptococcal virulence.

Many observations of M antigen have been made by indirect methods requiring mass procedures, drastic manipulations of the bacteria and their antigens, and the reading of secondary manifestations of antigen-antibody combination.

Using the simple and sensitive technique of marking the walls of living bacteria with fluorescein-labeled antibody, investigators of the Laboratory of Infectious Diseases, NIAID, were able to establish by direct observation a number of facts concerning the M protein of Group A streptococci.

Found to Be Antigen

They found it is indeed an antigen concentrated on or in the cell wall, and it cannot be detected in the capsule.

After living cells are treated with, then washed free of, trypsin and reincubated, the M protein forms in the cell population but only when and where new cell wall is being synthesized, thus showing that growth is essential to the re-appearance of the antigen.

These findings are of importance in studies of the growth and survival of bacteria, of bacterial resistance to host defenses and to antibiotics which interfere, in some way, with cell wall bio-synthesis.

The study was reported by Drs. Jerome Hahn and Roger Cole in the *Journal of Experimental Medicine*.

Research Center Grants Awarded 2 Universities

Surgeon General Luther L. Terry of the Public Health Service has announced the award of grants totaling \$1,065,699 for the establishment of two new General Clinical Research Centers.

One award, for \$381,260, went to Baylor University College of Medicine, Houston, Tex., for a 6-bed children's clinical research center. The other, a \$684,439 grant, was awarded to the University of Kentucky in Lexington for a 10-bed general clinical research center.

These bring to 71 the number of such centers administered through programs of the Division of Research Facilities and Resources.

Gordon Klovdahl Named DRFR Exec. Officer

Gordon J. Klovdahl, Administrative Officer in the Office of the Associate Director for Intramural Research, National Institute of Mental Health, since 1957, has been named Executive Officer of the Division of Research Facilities and Resources by Dr. Frederick L. Stone, Chief of the Division.

Mr. Klovdahl, a native of Wittenberg, Wis., is a graduate of George Washington University. He received the A.A. degree in 1954 and the A.B. in 1957.

From 1939 to 1945 he served in the U. S. Navy, joining the Public Health Service in 1946 in the former Chief Clerk's office.



Mr. Klovdahl

PHS Career Cited

His career in the Public Health Service included assignments in the Office of Personnel as a Personnel Analyst, in the Division of Chronic Diseases, Bureau of State Services, as Administrative Assistant, and in the Bureau of Medical Services as Budget and Fiscal Officer and Administrative Officer for the Federal Prison Medical Service.

He joined NIH in 1953 as NIMH Budget Officer and later moved to the Office of the Director, NIH, as Budget Planning Officer before joining NIMH as Administrative Officer.

New Mental Health Film Scheduled for Showings In CC February 18, 20

A man's mental breakdown and his wife's struggle to obtain for him the treatment he needs for a successful return to society form the theme of "The 91st Day," a dramatic 80-minute film scheduled for two showings in the Clinical Center.

The first showing will be Tuesday, February 18, at 9:30 a.m. in the 14th floor assembly hall; the second, Thursday, February 20, at 10 a.m. in the main auditorium.

Cooperative Effort

Inspired by the report to Congress of the Joint Commission on Mental Illness and Health, the film was produced for the National Association for Mental Health, under auspices of Smith, Kline and French Laboratories of Philadelphia. It was recently premiered at the NAMH annual convention in Washington.

Stars of the film are Patrick O'Neal and Madeline Sherwood. O'Neal portrays a high school teacher who falls victim to a delusion that disrupts his life. Miss Sherwood takes the part of his wife who refuses to resign herself to the inevitability of separation from her husband.

Immediately following the showing, Dr. Jack Ewalt, President of the American Psychiatric Association, will discuss (in a 5-minute filmed segment) the relationship of "The 91st Day" to the present revolution in mental health.

NINDB Exhibit Portrays Life, Work of Guillaume Duchenne, Neurology Pioneer

A neurological exhibit which enjoyed success before scientific audiences in such diverse locations as New Jersey, Peru, and Texas has been on display in the Clinical Center lobby since February 3 and will continue until Friday.

Titled "Neurology's Premier," the NINDB-designed exhibit portrays the life and work of Guillaume Duchenne, born nearly 160 years ago at Boulogne, France. It

will be shown next at the April meeting of the Harvey Cushing Society in Los Angeles.

The exhibit is comprised of panels illustrating Duchenne's birthplace and work, a model of his electric stimulator, a bust of the pioneer, and a rare copy of the only book written on his life and works, together with a continuous slide projection of reproductions of his experiments.

Duchenne was already married and a prospering Boulogne family doctor when a small incident changed the course of his life. He was treating a patient with electro-puncture when he noticed that an electrical current could produce an isolated contraction, limited to a single muscle fiber.

Designs a Stimulator

Entranced, he repeated the experiment many times, then plunged into a study of all literature available on electricity and physics.

Duchenne went on to design an electric stimulator. Using this, he developed a methodology of stimulating muscles, nerves, internal organs and special senses.

Duchenne employed his "localized electrization" method to study the structure and function of the human musculature, and changed much then-current thinking on the functions of certain muscles.

He also prepared an anatomical atlas, showing just where electrodes should be applied, to cause and record various muscular contractions.

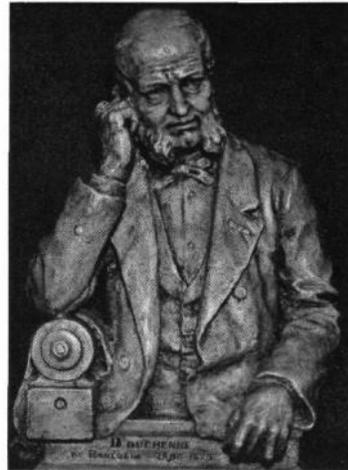
Duchenne left Boulogne for Paris in 1841. Winning free access to many hospitals there, he found at his disposal a vast storehouse of clinical research material.

Reawakens Interest

His identification of clinical entities such as progressive muscular atrophy, dystrophies of myopathic origin, and progressive locomotor ataxia, re-awakened long-dormant interest in the field of neurology.

He laid a foundation on which the great Jean-Martin Charcot, who acknowledged Duchenne many times as the "master in neurology," could later build.

The exhibit was first shown last June at the American Neurological Association's meeting in Atlantic City and, with Spanish-language texts for its illustrations and slides, appeared at the First Pan American Congress of Neurology in Lima, Peru, last October. In November it was shown at the American Academy of Cerebral Palsy's Dallas, Tex., meeting.



This bust of Guillaume Duchenne is displayed in the NINDB exhibit.

TESTING LAB

(Continued from Page 1)

a sample basis. Borderline cases will be asked to have a followup test annually.

Information derived from the Sudbury study will be used statistically by PHS, but individual results will be kept confidential. Participants with actual diseases will be referred to their family doctor.

The Sudbury study will be administered by the Diabetes and Arthritis Field Research Section, Brighton, Mass. The section, which is the research arm of the Diabetes and Arthritis Program, Division of Chronic Diseases, has had prior experience in providing medical support for a town-wide study.

Section Studies Diabetes

In 1946, the section began to administer the Oxford (Mass.) diabetes study, now going into its 18th year with 350 participants.

According to Dr. John B. O'Sullivan, Chief of the Field Research Section, the success of the study depends ultimately upon the citizens of Sudbury.

"We can handle the technical and medical end, but only the people of Sudbury can give us the cooperation we must have to get 100 percent participation in this war against diabetes and arthritis," said Dr. O'Sullivan. He added that support from the town thus far has been excellent.



Four British scientists visit NIH during a recent 3-week tour of the United States to observe the use of computers and electronic data processing as a supplement to medical research and medical administration. Left to right: Dr. J. A. Heady, Council of Medical Research; Maurice Odoroff, Chief of the Program Analysis Branch, NIGMS, who coordinated arrangements for the visit here; Dr. Bernard Benjamin, statistician with the Ministry of Health; Dr. G. Burroughs Mider, NIH Director of Laboratories and Clinics; Dr. P. Cliffe, Director of the Department of Clinical Measurement, Westminster Hospital; and Dr. Henry Yellowlees, Principal Medical Officer of the Ministry of Health, London.—Photo by Sam Silverman.

ANTI-LEPROSY

(Continued from Page 2)

or more is necessary to produce discernible lesions.

"No other bacterium shows such a predilection for nerves," Dr. Binford said, "therefore, histological examination of small cutaneous nerves is essential to an accurate early diagnosis."

He demonstrated this point by exhibiting slides of highly magnified peripheral nerve cells that had been invaded by acid-fast stained bacilli. These nerve cells were contrasted with skin sections that under lower magnification could not provide a basis for differential diagnosis.

Dr. Binford pointed out that, although leprosy bacilli can be demonstrated in the cells of the liver and spleen, the infection does not appreciably interfere with the physiology of these internal organs. Instead, susceptibility of the entire skin bed and, more significantly, of the peripheral nerves to infection by *Mycobacterium leprae* causes the disability of leprosy and the severe disfigurement.

Dr. Knight reported that the two patients have been treated since mid-July of last year with B. 663, and have experienced no toxic reactions from a relatively high daily dosage of the drug.

Case Histories Presented

Providing the assembled scientists with the pertinent factors in the two cases, each of the Clinical Associates presented the case history of the patient for whose day-to-day care he is responsible.

The clinicians used comparative photographs to show the effect of therapy thus far. The visible concentration in the skin of the drug—a red dye—was vividly illustrated.

Although skin biopsies taken on admission of the patients revealed the presence of leprosy bacilli in all specimens, the full extent of their lesions was not visible until after several weeks of treatment.

Indicating clumps of the red-stained bacilli in slides of skin sections, Dr. Binford continued his lecture after these presentations by describing various aspects of the infection as experienced by the two patients.

This clinical evaluation of B. 663 follows the promising laboratory investigations conducted by Dr. Yao Teh Chang, NIAMD, who previously had demonstrated that the new chemical agent exerts marked suppressive activity against murine leprosy (*NIH Record*, Nov. 5, 1963).

NOTE: For additional information on leprosy and the cultivation of leprosy bacilli, see *NIH Record*, July 17, 1962, Page 4, and November 20, 1963, Page 3, column 1.

PORTRAITS ARE GIFT OF PHS PERSONNEL



These portraits of the men who served successively as Surgeon General of the Public Health Service from 1948 to 1961 are now on permanent display in Conference Room C here at Stone House. They were gifts to the Service from its personnel, both Civil Service and Commissioned Corps, in the spring of 1961. Left to right: Dr. Leroy Burney, who served from 1956 to 1961, and Dr. Leonard Scheele, 1948-56.

Rheumatoid Arthritis Is Not a Result of Heredity, NIAMD Indian Studies Suggest

Indian population studies by National Institute of Arthritis and Metabolic Diseases scientists suggest there is no genetic predisposition for occurrence of rheumatoid arthritis.

Results of population studies on two widely contrasting tribes of American Indians suggest that the occurrence of rheumatoid arthritis is not tied to hereditary factors but may well be influenced by environmental factors other than climate.

The prevalence of both rheumatoid arthritis and rheumatoid factor in both tribes showed a decidedly random pattern, uninfluenced by blood relationships.

Environmental Effects Studied

The studies were designed to ascertain if populations living under different geographic and climatic conditions differ in frequency of type of arthritis.

The populations selected were the Blackfeet of Montana who inhabit one of the coldest areas, and the Pima of Arizona who live in one of the warmest areas of the country.

These Indians have lived virtually their entire lives on their respective reservations, located in their ancestral homes, and hence should reflect environmental influence on the occurrence of disease to a far greater extent than most other population groups.

The investigators examined more than 2,200 Indians representing approximately 85 percent of the Blackfeet and Pima Indian populations over 29 years of age.

Diagnosis of rheumatoid arthritis (probable, definitive, or classical) was based on the American Rheumatism Association criteria.

Drs. Thomas A. Burch, William

O'Brien and Joseph J. Bunim of NIAMD's Clinical Investigations staff, and their collaborators, Drs. John S. Lawrence and Peter H. Bennett of the Empire Rheumatism Council Field Unit (Great Britain), found that the Pimas had a significantly higher occurrence of rheumatoid arthritis than the Blackfeet—5.4 percent as against 4.1 percent.

The frequency of the rheumatoid factor was more than three times as great among the Pimas (18.9 percent) than among the Blackfeet (5.6 percent).

In both tribes, the investigators found that the frequency of rheumatoid arthritis and rheumatoid factor was the same in the blood relatives of patients with rheumatoid arthritis and in blood relatives of non-arthritic subjects with rheumatoid factor, as in relatives of persons who had neither the disease nor the factor.

Inheritance Not Factor

Furthermore, the distribution of cases among offspring having one, both or neither parent affected, and also in sibling pairs, was not in accordance with either dominant or recessive inheritance.

It was, however, consistent with random distribution in the population. This failure to demonstrate a genetically determined distribution (familial aggregation) for rheumatoid arthritis or rheumatoid factor suggests that the disease and the factor are acquired and are influenced or determined by factors other than inheritance.

These findings were reported before the recent interim session of the American Rheumatism Association.

Willard Maginnis, NCI, Dies Jan. 17 in Denver

Willard W. Maginnis, Program Analyst in the Research Contracts Operations Branch, National Cancer Institute, died January 17 at age 50 in Denver, Colo., where he was scheduled for a kidney transplant operation.

Mr. Maginnis came to NIH in 1956 as a photographer in the Photographic Section of the Division of Research Services, and later transferred to a visual information specialist position in the Clinical Center.

In 1961 he was appointed Normal Volunteer Patient Program Supervisor, responsible for administering the normal volunteer program which provides volunteer participants in research investigations at NIH.

In October 1962 he became Program Analyst in the National Cancer Institute, where he participated in the planning and policy discussions relating to NCI research contracts and in formal contract negotiations as the program representative.

He accompanied project officers on initial visits to potential contractors' facilities and as management adviser engaged in discussions of proposed projects and the inspection and approval of facilities.

He is survived by his widow, Mrs. Eleanor M. Maginnis, of 10002 Mayfield Drive, Bethesda, and four children: Kenneth J., Willard, Mrs. Larry Whitlock, and Mrs. Marlin Leisher.

Food and Heart Disease Is Subject of Pamphlet

A revised and expanded edition of the Public Health Service pamphlet, "The Food You Eat and Heart Disease," describes for laymen the association of diet and the cardiovascular diseases.

The 12-page pamphlet counteracts the popular misconceptions of diet as cure-all but stresses its importance as specific therapy in some forms of heart disease. It also serves as an aid to physicians and nurses in explaining heart disease and its dietary treatment to their patients.

Single copies of the pamphlet are available without charge from the U. S. Public Health Service, Washington, D. C. 20201. Bulk copies for general distribution may be obtained through the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402, at 10 cents per copy, \$7.50 for 100 copies.



Mr. Maginnis

McArdle's Disease Study Reveals Glycogen Role In Muscle Metabolism

Clinical findings on hereditary myopathy due to the absence of muscle phosphorylase have been reported by scientists of the National Institute of Neurological Diseases and Blindness.

Studies of McArdle's disease, a rare hereditary muscular disorder, are providing important knowledge regarding the role of glycogen in both abnormal and normal muscle metabolism, as well as information clarifying the previously debated metabolic pathway of glycogen biosynthesis.

The outstanding symptom of McArdle's disease is a lifelong history of exercise intolerance because of "cramps" (a muscle contracture in which the muscle is electrically silent).

Variable Symptom Noted

A more variable symptom is myoglobinuria (brownish discoloration of the urine) if exercise is continued after onset of pain.

Both conditions are believed due to inability to maintain adequate levels of adenosine triphosphate because of a lack of muscle phosphorylase.

The patient has no myotonic symptoms (muscle spasms) and nothing but exercise provokes the "cramps."

These studies provide strong evidence that the UDPG (uridine diphosphoglucose) pathway is the major biosynthetic pathway of glycogen and that the action of phosphorylase may be solely catabolic.

Since, in the absence of phosphorylase, glycogen can be formed but not degraded, it is felt there must be some control system which regulates the biosynthetic pathway. This, however, has not yet been defined.

Concentration Increased

Patients with McArdle's disease were found to have an increased concentration of glycogen in the muscle, though the deposition of glycogen did not continue indefinitely.

Enzymatic analysis and histochemical studies of muscle indicated that phosphorylase activity is absent, and lactate did not increase in venous blood after ischemic work.

However, liver phosphorylase is not involved as shown by the normal hyperglycemic response to intravenous glucagon and epinephrine. There was no immunologically-active muscle phosphorylase protein, indicating that the protein molecule has been altered.

Problems to be solved include the metabolic bases for muscle con-

R&W Gives 2d Concert Of Series Next Friday

Seldom heard chamber music compositions, including interesting works for unusual combinations of instruments, will be presented next Friday at 8:30 p.m., in the Clinical Center auditorium as the second concert in the winter series sponsored by the Recreation and Welfare Association of NIH.

The string quartet, composed of Nancy Ellsworth, violin; Mark Ellsworth, viola; Eugene Dreyer, violin; and Jean Robbins, cello, will be joined by William Montgomery, flutist.

4 Selections on Program

Selections to be played include Beethoven's Quartet, Opus 18, No. 2; Mozart's Flute Quartet; Tansman's Tryptich, and Haydn's Quintet in D Major for flute and string quartet.

Admission is by ticket only, on sale at the film desks in Building 10 and the Westwood Building and at the R&W Office in Building 31. Tickets are \$1 for adults. Children under 12 and Clinical Center patients will be admitted free but must have tickets. CC patients may obtain tickets from the Patients Activities Section.

Definition of Public Servant

"... The definition of public servant must both broaden and become more meaningful. Power elites in business and professions must recognize that they at times deal with public, rather than private, matters. Public toleration of their power on these occasions is not oversight; it is enfranchisement coupled with responsibilities to the public rather than to shareholders, associates, and fellow professionals. Public servants (in or out of governmental office) must recognize that they are enfranchised to implement public aspirations and that whenever they act as principals (rather than as the public's agents) they act for themselves and not in execution of their trust. Even those who are utterly well-meaning in their attempts to do what is best for the public, but who act without regard for public aspirations, rule—but do not serve."—*Trends in Modern American Society.*

tracture, metabolic events leading to myoglobinuria, control mechanisms regulating glycogen concentration in muscle, and therapy.

These studies by Drs. Lewis P. Rowland, Stanley Fahn, and Donald L. Schotland, were reported in Archives of Neurology.

NIMH Research Technician Wins Award For Designing Monkey Restraining Chair

Howard J. Wolfe, a research technician with the Neuropsychology Section of the Laboratory of Psychology, National Institute of Mental Health, has received a Special Act or Service Award for the design and construction of a monkey restraining chair.

The award certificate and a check for \$275 was presented to Mr.



Howard J. Wolfe, NIMH research technician (right), receives an award from Dr. John C. Eberhart, NIMH Associate Director for Intramural Research, for the design of an ingenious monkey restraining chair.—Photo by Jerry Hecht.

Wolfe by Dr. John C. Eberhart, Associate Director for Intramural Research, NIMH.

Dr. H. Enger Rosvold, Chief of the Section of Neuropsychology, cited Mr. Wolfe as a "superior research technician who capably applies himself to a variety of problems. His versatility... and broad experiences with monkeys in a variety of research situations make it possible for him to assist in all aspects of our program—training animals, assisting at surgery, building apparatus, and preparing brain sections for anatomical study."

PLASTICS

(Continued from Page 3)

Recent studies by the MAPB Plastics Unit have developed a better method of making moulages. An improved molding material now in use yields excellent molds, sets more rapidly, and requires less preparation than former materials.

Waxcasting materials have been replaced by self-curing acrylic plastic which gives detailed reproduction, is much less fragile than wax, and can be easily colored and painted.

Currently the unit is investigating the use of a silicon plastic that produces flexible, life-like reproductions and is less likely to break.

MAPB's unit also has recently developed a technique for vacuum

forming plastic skull caps for monkeys from molds made from original skull bone.

In studies of the effect of impact, the surgeon removes the bone and within two hours a clear plastic skull cap is fabricated and returned for replacement in the monkey.

This clear plastic cap is an exact replacement for the original bone and allows a visual observation of the surface of the brain during the studies.

For the past eight years, the laboratory had been using restraining chairs bought from an outside firm for about \$300.

Modifications were usually necessary to meet the requirements of individual experiments, upping the cost of each chair to around \$400. The chairs also had machined parts that tended to break down, adding to the maintenance cost.

About four months ago Mr. Wolfe decided he would try to make a restraining chair that would have less complicated moving parts and would be more adaptable to the needs of the investigator.

He gathered materials—pipe fittings, aluminum pipe, plexiglas, nuts and bolts—and went to work in the laboratory workshop.

Chair Is Adjustable

The result was a chair that is completely adjustable to any size monkey, yet has less moving and machined parts than the older type chair.

It is readily adaptable to individual experiments, allowing many different instruments to be fitted onto the chair. The simpler design makes the chair much easier to use, less expensive to maintain, and easier to clean.

The cost of the new chair is less than \$100.

"It was like putting an erector set together," explained Mr. Wolfe, when asked how he went about designing the chair.

A native of Pennsylvania, Mr. Wolfe has a long-standing interest in animals and has studied zoology at George Washington University. He worked with primates at the National Zoological Park in Washington, D.C., for five years before coming to NIH in 1952. He has been with the Section on Neuropsychology for the past eight years.

Dr. Angus Dun Named to Council

Dr. Angus Dun, retired Bishop of the Episcopal Diocese of Washington, has been appointed to serve on the National Advisory Arthritis and Metabolic Diseases Council through September 30, 1964.

Blood Shunt Technique May Alleviate Primary Pulmonary Hypertension

Animal studies by National Heart Institute surgeons indicate that the surgical creation of a right-to-left blood shunt may prevent right-sided heart failure and increase exercise tolerance in patients suffering from primary pulmonary hypertension.

Although the cause of primary pulmonary hypertension is unknown, it is characterized by constriction of blood vessels in the lungs.

The resultant resistance to blood flow in the lungs tends to dam blood and increase pressure in those chambers of the heart (right ventricle and atrium) that maintain the pulmonary circulation. The disease usually leads to death from congestive right-heart failure in two to 10 years.

Syndrome Characterized

Eisenmenger's syndrome is characterized by pulmonary hypertension plus an abnormal opening in the muscular wall (septum) between the left and right sides of the heart.

The NHI scientists observed that the septal defect appeared to protect against heart failure. During periods of stress of exercise, blood could be diverted through the defect into the left side of the heart (right-to-left shunt), thereby relieving some of the pressure on the congested right ventricle.

They reasoned that the deliberate creation of such a defect would similarly benefit patients with primary pulmonary hypertension. This postulate was tested in the currently reported animal studies.

First, the blood-damming effects of pulmonary hypertension were simulated in 10 dogs by progressively constricting the main pulmonary artery with an externally adjustable tourniquet.

Shunt Established

At a second operation, the surgeons established a shunt between the two sides of the heart with a cannula, and then determined the circulatory consequences of this communication while it was open and while it was clamped shut.

"In every animal, opening the communication resulted in a right-to-left shunt, a decrease in right ventricular pressure (average 39 percent), a decrease (average 18 percent) in right atrial pressure, a moderate decrease (11 percent) in systemic arterial saturation, and slight rises (average nine percent) in systemic arterial pressure and cardiac output," the scientists reported.

Controlled, corollary experiments,

Changes in Infant Care Recorded in Exhibit

Copies of *Infant Care*, one of the all-time most popular government publications, are now on display in the reading room of the NIH Library on the fifth floor of the Clinical Center.

The display includes copies of the 11 editions of *Infant Care*, published by the Children's Bureau, beginning with the first edition in 1914 and concluding with the latest revision in 1963.

Examples of contrasting recommendations for clothing and feeding of infants are shown, including items loaned by the Corning Museum of Glass and the Smithsonian Institution.

The exhibit was prepared by Sonya Friedman of the Reference Unit, Library Branch, and Walter Clark of the Medical Arts and Photography Branch, both of the Division of Research Services.

using six additional dogs, demonstrated conclusively that right-to-left shunts actually do protect against heart failure during exercise.

As in the previous experiments, the pulmonary artery was constricted to produce right ventricular hypertension in each animal.

The surgeons also created a large atrial septal defect in each of three dogs comprising the experimental group; the three remaining animals were used as controls in studying the effects of graded exercise.

Exercise Results Noted

The scientists found that moderate exercise significantly increased right-heart pressures and caused slight increases in heart output of control animals, whereas severe exercise invariably resulted in death from right heart failure.

In contrast to these control findings, the three experimental dogs exhibited only slight pressure-increases but considerable increases in heart output in response to moderate and severe exercise, and all animals survived with no evidence of heart failure.

Thus, the findings suggest that this operation be applied in the treatment of patients with primary pulmonary hypertension.

These studies were reported by Drs. G. W. Austen, A. C. Morrow, and W. B. Berry of NHP's Surgery Branch, at the Annual Meeting of the American College of Surgeons.

Many cancers can be cured if they are detected early and treated early, according to the American Cancer Society. Find out more about cancer by calling Service 7-8877 at any time of the day or night. You will hear a doctor with a life saving message on Cancer Answers.

Dr. Price Is Appointed NIGMS Section Head

Appointment of Dr. Vincent E. Price as Head of the Medical Sciences Section, Research Training Grants Branch, National Institute of General Medical Sciences, was announced recently by the Branch Chief, Dr. Harvey I. Scudder.

In addition to his new responsibilities for supervision of the section, Dr. Price will continue as Program Administrator of the multidisciplinary medical sciences and the Medical Scientist Training Program. The section also includes training programs in Clinical Research, Pathology, and Epidemiology.

Joins NIH in 1946

A medical director in the PHS Commissioned Corps, Dr. Price came to NIH in 1946. He served for four years as a research biochemist in the Laboratory of Biochemistry, NCI.

Following one year on a PHS research assignment to the Institut for Cytofysiologi, Universitetets, Copenhagen, Denmark, he returned to NCI and served from 1951 to 1961 as Head of the Enzymes and Metabolism Section, Laboratory of Biochemistry. In the latter two years he served as Acting Head of the Laboratory of Biochemistry.

He joined NIGMS in 1961 and since that time has served as Executive Secretary of various training committees for the Research Training Grants Branch. He played an instrumental role in the development of the Medical Scientist Training Program established last October.

Native of Michigan

A native of Battle Creek, Michigan, Dr. Price received the A.B. degree from Oberlin College, Oberlin, Ohio, in 1942, and the M.D. degree from the University of Michigan, Ann Arbor, in 1945.

Included among the 50 scientific papers that Dr. Price has published are research studies on the enzymatic resolution of amino acids, liver catalase in tumor-bearing animals, the kinetics of catalase synthesis and destruction *in vivo*, and anemia in cancer.

Dr. Lindgren Appointed County Health Officer

Dr. Roy P. Lindgren, Coordinator for Scientific and Professional Matters with the Data Processing Branch of the Division of Research Grants since January of 1960, was named Montgomery (Md.) Health Officer by the County Council on February 4.

The appointment is effective April 1. Dr. Lindgren succeeds Dr. William J. Peebles who resigned seven months ago to accept a similar position in California.

1st Comprehensive Study Reported of an Entire Psychiatric Population

The first comprehensive study of an entire psychiatric patient population has been reported.

A complete case register was kept on all patients treated in Monroe County, N.Y., beginning January 1, 1960.

Recognizing the frequency with which psychiatric patients move from one mental health service to another, the investigators obtained accurate information from all psychiatric facilities in this community, thereby avoiding erroneous conclusions based upon duplication of records or incomplete reporting.

An analysis of the data on different groups of patients indicates certain patterns in mental health care. The majority are admitted by outpatient facilities which provide immediate care and serve to screen possible inpatients; long-term outpatient care serves a relatively minor role in the community.

Statistics Given

During 1960, in this county of 586,000 people, one out of every 60 county residents was a psychiatric patient; there was an average of two periods of care per patient; and on a given day (January 1) 50 percent of the patients were diagnosed as psychotic, 22 percent as having chronic brain syndromes, and 28 percent with psychoneurotic, personality and other disorders.

Admission rates were higher for men than for women; nonwhites than whites; urbanites than non-urbanites; and separated, divorced and single than widowed or married. Patients under 40 years of age made greater use of outpatient facilities; those over 40 were more likely to be inpatients.

The investigators, Dr. E. A. Gardner and associates, NIMH grantees at the University of Rochester, made use of statistical techniques for studying mental illness developed by Dr. Anita K. Bahn, co-author of the study and Chief, Outpatient Studies Section, Biometrics Branch, NIMH.

Potential Extended

Dr. Bahn and associates extended the potential of case registers through electronic data processing, which increases the speed and flexibility in selection of variables for analysis.

The findings, based on the first year of this study, will be used in longitudinal studies of the patients' progress, in analyses of the epidemiology of the psychiatric disorders, and in an evaluation and planning for the changing role of community mental health facilities.

A report of this study appeared in *Archives of General Psychiatry*.