the NIH Record

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PUBLIC HEALTH SERVICE

Huntsville Project To Be Model for Community Health

Surgeon General Luther L. Terry of the Public Health Service has announced the successful completion of the first stage of a pilot demonstration to measure in depth the health problems of an entire community.

County health authorities and community leaders in Huntsville, Ala., are now planning to apply remedies for conditions revealed in this intensive survey.

'Will Become Model'

"This attempt to make Huntsville one of the healthiest communities in the Nation will become a model for similar activities in communities throughout the region," Dr. Terry said.

"The opportunity provided here for firsthand observation and special training will be of invaluable assistance in the development of similar disease control programs."

Projects like that conducted at Huntsville are underway in Oklahoma City, Okla.; Lebanon, Pa.; and Tucson, Ariz.

Dr. Terry pointed out that the project at Huntsville, sometimes known as America's Missile and Space Center, represents the culmination of 10 years' experience in

(See HUNTSVILLE, Page 6)

'Edge of Darkness' Is Next In R&W Movie Series

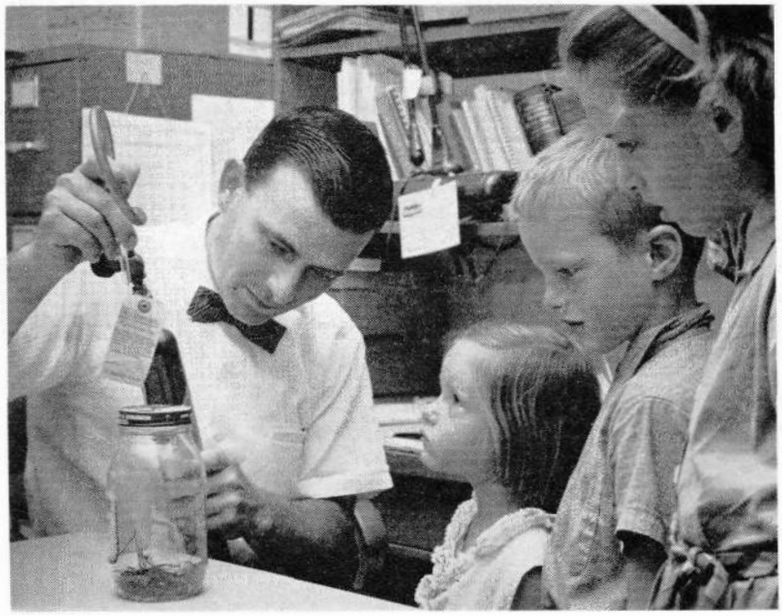
"Edge of Darkness," featuring classic performances by Walter Huston, Judith Anderson, and Errol Flynn, will be the next in the series of free movies sponsored by the Recreation and Welfare Association of NIH.

Based on an incident in World War II, the film tells the story of a revolt in a small Norwegian fishing village against the Nazis.

The film will be shown Saturday and Sunday, July 20 and 21, in the Clinical Center auditorium at 8 p.m.

NIH employees, their families and friends, and CC patients are invited to attend.

NHI Scientists Collect Wasps To Study Peptide Production



Dr. John Pisano of the National Heart Institute anesthetizes a wasp with CO_2 for safe handling. The fascinated youngsters are children of the Phillip Van Deventer family of Silver Spring, Md., who contributed over 80 wasps to the project.—Photo by Jerry Hecht.

By Tony Anastasi

Man is not biting dog yet. But scientists at the National Heart Institute are "stinging" wasps.

As a result benefits may eventually be derived from the venom of the wasp, whose sting is sometimes fatal.

NHI researchers are studying a peptide contained in wasp venom which is believed to be similar to bradykinin or to kallidin.*

Dr. John Pisano of the Heart Institute and Dr. Leal Prado and his wife, Dr. Eline Prado, Fulbright scholars from Brazil now working here, are currently engaged in a wasp-milking project.

Electric Chair Used

To get the wasp peptide, the Drs. Prado and Pisano have sentenced 1,000 little stingers to be shocked in a miniature electric chair, but not fatally.

They first anesthetize a wasp, then secure it by strands of wire to an electric chair of their own devising.

In a few minutes, when the wasp recovers, it is given an electric shock which causes it to emit its clear venom, which contains many substances, including the peptide.

From two to five micrograms of the peptide are milked out when the wasp is shocked. From the 1,000 wasps need in the study, about two milligrams will be collected.

If these scientists can discover how insect cells produce peptides they can gather valuable clues indicating how other types of cells make peptides. Since some peptides are hormones that regulate many of the human body's biological functions, these studies may reveal how the body controls many of these functions.

Dr. Eline Prado helped in the purification of bradykinin when it was discovered in 1948 in Brazil. She was working in the same laboratory with the discoverers, Rocha

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Cambridge to Get Biomedical Science Resource Center

A major multi-institutional Resource Center for Computer Technology and Research in Biomedical Sciences is being established in the New England region under a $2.8 million grant announced Sunday by Dr. Luther L. Terry, Surgeon General of the Public Health Service.

The center will be located in the Cambridge area. Massachusetts Institute of Technology will receive the grant and serve as host institution. The Division of Research Facilities and Resources will adminster the program.

Council Approves Plans

Plans for this resource center, approved unanimously by the National Advisory Health Council—an advisory group to the Surgeon General—call for a comparable level of annual funding over seven years to support the establishment of the center and its operation.

The cost of such support will be shared by the National Institutes of Health and the National Aeronautics and Space Administration and will be subject to periodic negotiation and approval each year by the Surgeon General.

A formal review of the center's scientific program and activities will be made every two years.

Resource centers such as this are intended to fill regional needs for major specialized facilities which cannot easily be met by any single

(See RESOURCE CENTER, Page 4)

Concert by Marine Band To Be Given July 23

The third in this season's series of outdoor band concerts for Clinical Center patients will be presented here on Tuesday, July 23, at 7:30 p.m., by the U. S. Navy Band.

NIH employees, their families and friends are cordially invited. The concerts are held on the first floor patio of the Clinical Center, east of the auditorium. In case of rain, the CC auditorium is used.

the NIH Record

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University of Michigan Honors Dr. N. B. Eddy For Narcotics Studies

Dr. Nathan B. Eddy, retired Chief of the Section on Analgesics, Laboratory of Chemistry, National Institute of Arthritis and Metabolic Diseases, was awarded an honorary Doctor of Science degree by the University of Michigan at commencement exercises last month.

Dr. Eddy

Dr. Eddy was cited for devoting a lifetime to the study of narcotics and for attaining "a fuller and surer understanding of their nature and use than any other living man."

A recognized authority on drug addiction and analgesics, Dr. Eddy retired from the U. S. Public Health Service in August 1960.

Is PHS Consultant

He now serves as a PHS consultant, in addition to being Executive Secretary of the Committee on Drug Addiction and Narcotics of the National Academy of Sciences-National Research Council.

Dr. Eddy is a charter member of the Expert Committee on Addiction-Producing Drugs of the World Health Organization. He has acted on many occasions as technical advisor to the U. S. Delegation to the UN Commission on Narcotics and has served as a member of many other narcotics committees.

In recent years his office has come to be the world clearinghouse for information concerning all aspects of narcotics, analgesics and addiction. In 1959 he and Dr. Everette L. May of NIAMD reported the synthesis of phenazocine (NIH 7519), a potent analgesic which is a more effective painkiller than morphine but has fewer side effects and is less likely to produce addiction.

Mrs. Oest Wins Award For Work Performance

Dorothy C. Oest, secretary in the Section on Aging, Laboratory of Psychology, National Institute of Mental Health, recently received a cash award and citation for superior work performance. In presenting the award, Dr. James E. Birren, Chief of the Section on Aging, told Mrs. Oest he "rarely had such a welcome duty."

Dr. Birren said Mrs. Oest's superior ability in handling many special tasks enabled him "to undertake research and related responsibilities that I otherwise could not do."

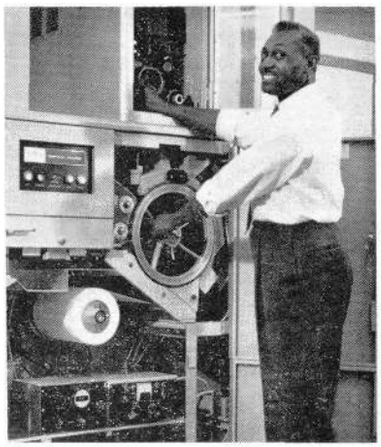
Dr. Birren cited Mrs. Oest's management of myriad details concerning publication of a book he edited entitled "The Handbook on Aging and the Individual."

Mrs. Oest has been in her present position since 1955. Prior to that she was employed at Mt. Alto Veterans Hospital.

Dorothy Oest receives a citation and cash award for superior work performance from Dr. James E. Birren.—Photo by Bob Pumphrey.

Library's New Photocopying Equipment Will Speed Service to Scientists Here

The NIH Library announces that its new system for providing photocopies of scientific and medical journal articles needed for NIH research purposes is now in operation.



Redrick T. Rice, who is in charge of the Library's journal article reproduction service, loads a processed microfilm into the new Copyflo Continuous Printer. The machine can turn out a series of dry prints at the rate of 20 linear feet per minute.

Recently photocopy service was curtailed for several weeks during renovation of the photocopy room, installation of the new equipment, and training of the Library's machine operators in the use of the equipment.

The new system reproduces photocopy from microfilm. The requested journal article is photographed on 35mm microfilm by either of two Recordak MRD-2 microfilm cameras recently acquired.

The film is then processed. From the processed microfilm a Xerox Copyflo 11 Continuous Printer, newly installed in the Library, turns out a series of dry prints at the rate of 20 linear feet per minute, on a 2,000-foot continuous roll of paper.

Prints Ready Quickly

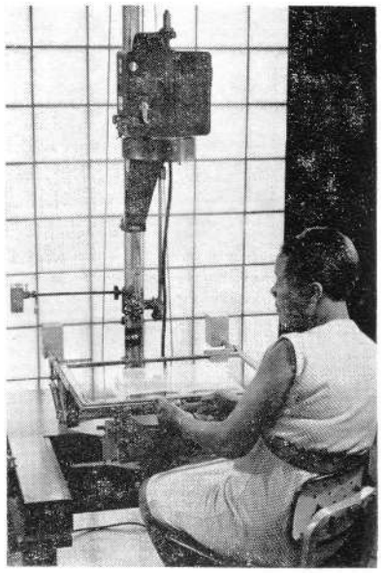
These positive prints are ready for immediate use after cutting.

Initially, this system will be operated on a 72-hour service basis from the time the request is received until the copy is ready to be mailed or picked up.

It is expected that the service will eventually be reduced to 48 hours.

The Library has retained the two Xerox 914 Photocopiers to fill requests of immediate urgency which cannot wait the 72 hours.

The new system is designed to provide better and more efficient service for the NIH scientific-medical personnel in addition to increasing the Library's capability for providing photocopies.



Lillian Parker, library machine operator, uses a new Recordak MRD-2 camera to photograph a journal article.—Photos by Ed Hubbard.

Employee Health Lists Vaccination Schedule

The NIH Employee Health Service urges all NIH employees who have not been vaccinated against smallpox in the past three years to be revaccinated.

A schedule has been arranged to assure everyone of an opportunity to be vaccinated promptly.

Employees in Building 2 of the North Bethesda Office Center and in the Nave, Norfolk, Zenith, Trunnel, and Auburn Buildings were to be vaccinated yesterday and today (July 15 and 16).

Remainder Start Tomorrow

Employees in the Robin and Arts Buildings may report tomorrow and Thursday (July 17 and 18) from 9:15 a.m. to 4:15 p.m. in Conference Room A, Robin Building, for their vaccinations.

Those whose offices are in Buildings 14, 28, 29, and 30 may be vaccinated in the Conference Room of Building 30 on July 24 from 9 a.m. to 4 p.m.

All night-personnel may receive vaccinations at 8 a.m., Monday through Friday, in the Building 10 Health Unit.

Westwood Building employees may be vaccinated in their Health Unit, Monday through Friday, from 9 a.m. to 4 p.m.

All other employees may report for vaccinations, Monday through Friday, in the Building 10 Health Unit, from 9 a.m. to 4 p.m., or in the Building 31 Health Unit from 1 to 4 p.m.

Dr. Howard C. Goodman, NIAID, Heads WHO Unit In Geneva for One Year

Dr. Howard C. Goodman, Head of the Clinical Immunology Section of the Laboratory of Immunology, National Institute of Allergy and Infectious Diseases, left recently for Geneva, Switzerland, to assume his duties as Chief of the newly established Immunology Unit of the World Health Organization.

Dr. Goodman

In making the announcement, Dr. Luther L. Terry, Surgeon General of the Public Health Service, said Dr. Goodman will be on a one-year leave of absence from his post at NIH but will have the opportunity to return to NIH at various times during the year.

Dr. Goodman's appointment to organize and direct the first WHO Immunology Unit came from Dr. M. G. Candau, Director-General of the World Health Organization.

Last year Dr. Candau appointed Dr. Goodman to a committee to study the possible merits of such a unit.

The proposals submitted by the committee outlined six areas of work in which the World Health Organization could contribute to world immunological problems.

Recommendations Made

The general highlights of this report made recommendations providing for the coordination of research in general immunology and allergy; training of immunologists; arranging research services providing for reagents, experimental animals and authentic lines of tissue culture cells; standardization of nomenclature and terminology; and providing information on serological methodology.

Also establishment of a network of reference laboratories; providing and stimulating research on autoallergic disorders; immunological investigation in protozoal and helminthic infections; helping in efforts to establish or enlarge banks of human convalescent sera and human immune globulins; and assisting developing countries in establishing centers for research in immunology.

Dr. Goodman has been a staff member of NIH since 1953. He was associated with the National Heart Institute before joining the staff of NIAID in 1960.

His undergraduate work was conducted at Harvard, and he received his M.D. from Johns Hopkins in 1944.

Dr. Goodman's wife and their three children will go to Geneva with him.

Genetic Disease Rate Is High In Group Inbred Since 1750

Family group from the Brandywine population, with two albinos on right. Sixty-six other albinos were found among their 5,000 relatives.

Significant findings of a 7-year study of genetic diseases in the Brandywine (Md.) population isolate were reported by Dr. Carl J. Witkop, Jr., Chief of the Human Genetics Branch of the National Institute of Dental Research, following announcement of the closing of the Clinton, Md., field office, from which the study was conducted.

The field staff, headed by Hazel Dyson, Public Health Nurse of the Genetics Branch, interviewed over 6,200 related persons whose ancestors have limited the majority of their marriages within seven surnames since the year 1750.

Family histories and vital records of over 12,000 deceased antecedents of this population were also obtained, in cooperation with Catholic University.

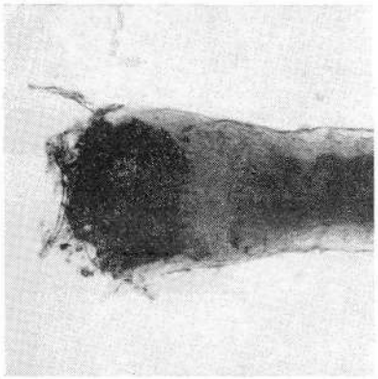
3,500 Examined

During the first five years of the study, staff members of the Genetics Branch examined, with assistance of the Howard University School of Dentistry, over 3,500 persons selected on the basis of surname only.

A high prevalence of genetically determined diseases was found to be associated with inbreeding, social selection and difference in number of children.

The investigators found, for example, that albinism, normally seen once in about 20,000 persons, occurred in 1.2 percent of this study population, considerably above the highest frequency yet reported in man.

Albinism has been considered to be due to a lack of tyrosinase activity. However, histochemical studies by the Genetics Branch indicate that there is tyrosinase activity in this particular type of albinism.



Hair bulb from an albino, incubated in 20 mg. per 100 ml. of tyrosine, showing pigmentation. Albinism has been considered to be due to a lack of tyrosine, but hair tests showed tyrosinase activity in Brandywine albinos.—Electron micrograph (M.63) by John McGuire.

Another disease, *dentinogenesis imperfecta* (defective calcification of the dentin), which occurs once in 8,000 in the general population, was found in over six percent of the isolate population, a rate 480 times greater than the national incidence.

Preliminary analysis of the data indicate that persons with the trait show marked fertility differences from the unaffected siblings and the remainder of the population.

Sickle-cell hemoglobin was found in over 20.5 percent of those examined and failed to demonstrate an expected decrease with succeeding generations.

Other defined genetic diseases uncovered include Brailsford-Morquio chondrodystrophy, hereditary generalized cortical hyperostosis, congenital deafness, cystic fibrosis, and glaucoma. Children who inherit the ability to taste phenylthiocarbamide had a 28 percent lower dental caries index than children who could not taste this substance.

Data are now being analyzed to determine the role of inbreeding, social selection, differential fertility and other factors in maintaining the high prevalence of these diseases in this population. The role of blood groups, secretory factors, and other genetic traits to fertility and morbidity are also under analysis.

NIGMS Supports Clinical Study of Anesthetic Agents

A nation-wide cooperative clinical study of anesthetic agents in wide use in this country will be conducted by the National Academy of Sciences-National Research Council, it was announced recently by Surgeon General Luther L. Terry of the Public Health Service, and Dr. Frederick Seitz, President of the Academy-NRC.

The 2-year project is being supported by a $1,650,000 research contract from the National Institute of General Medical Sciences, and will be carried out in approximately 20 hospitals, to be selected by the Academy-NRC, in various parts of the country.

The study is expected to provide comparative scientific data on the widely used drug, halothane, which was introduced in 1956 following extensive animal and human studies.

10 Million Receive Drug

It is estimated that more than half of the operations in this country are performed under this anesthetic and that about 10 million patients have received it to date.

Dr. Terry pointed out that halothane has been associated with an extraordinary record of safety and is considered one of the safest, if not the safest, of the anesthetics in general use.

Only since its advent has it been possible to do the successful heart surgery that is being accomplished today. However, earlier this year several deaths due to liver damage were reported in patients who had received halothane.

The Surgeon General emphasized

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RESOURCE CENTER

(Continued from Page 1)

institution; hence provision is made for support of total operating expenditures and capital equipment.

The new center will be a joint undertaking of several New England educational and research institutions.

Its major functions will be to conduct (1) research in computer technology and to develop computer systems appropriate to problems in the biological and medical sciences and (2) research programs in those areas of the biological and medical sciences in which life scientists and computer scientists have overlapping interests (for the present, studies of the nervous system are at the focus of this effort).

In addition, the center will seek to provide facilities for faculty affiliates and post-doctoral fellows, afford opportunities for research by graduate students from participating institutions, conduct training programs for workers in biomedical and computer research, and carry out advisory functions that fall within the scope of center activities.

No Duplication

In this connection, it is understood that the center's facilities are not intended to be used for services already provided by existing computation centers.

The center will be staffed by computer technologists and scientists, applied mathematicians, physical, biological and medical scientists.

It is anticipated that a large percentage of the staff will have academic affiliations with one of the participating institutions. In this manner, effective contact can be established and maintained with a broad spectrum of research and educational activities in the life sciences and in engineering.

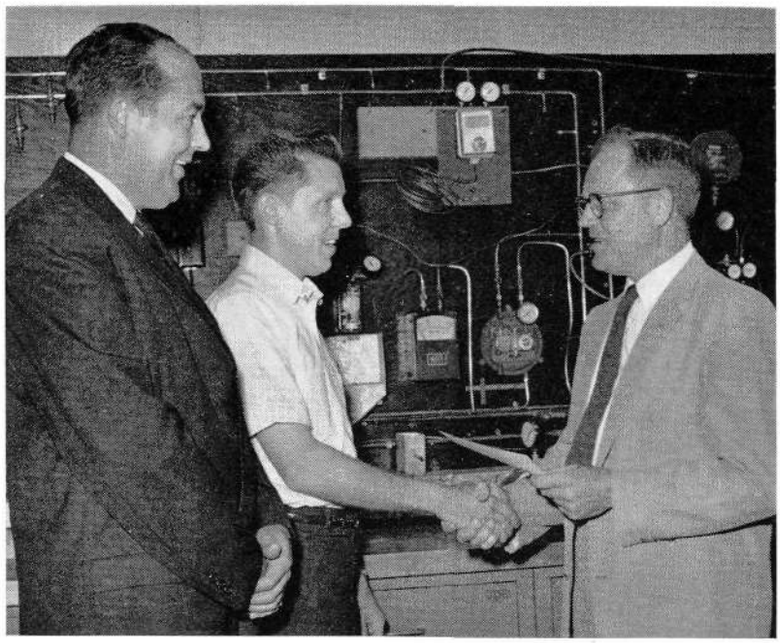
An institutional advisory board will represent the participating New England institutions, and a board of scientific advisors will represent the national scientific and technological community.

To Identify Problems

A clinical advisory committee, representing the medical schools and hospitals in the New England area, will help with the identification and selection of appropriate research problems.

Participating in the center are Boston University, Boston University Medical Center, Brandeis University, Brown University, Dartmouth College, Harvard University, Northeastern University, Tufts University, University of Connecticut, University of Massachusetts, and the Worcester Foundation for Experimental Biology.

Other academic and medical research institutions are expected to join later on.



Gene E. Hook (center), a Fixed Industrial Equipment Operator Leader in the North Buildings Unit, PEB, receives a diploma and congratulations from DRS Chief Chris A. Hansen for achieving top grades in the PEB Refrigeration and Air-Conditioning Course. At left is Martin L. Jeter, the course instructor and Head of the North Buildings Unit.—Photo by Ed Hubbard.

Seven NIAMD Grantees Win Hektoen Medals

Seven grantees of the National Institute of Arthritis and Metabolic Diseases were accorded top recognition for outstanding exhibits of original work at the recent annual meeting of the American Medical Association in Atlantic City.

Drs. Harold M. Frost, Elias D. Sedlin, and Max Klein of the Henry Ford Hospital's Orthopedic Research Laboratory in Detroit received the AMA's Hektoen Gold Medal for their exhibit, "Osteodynamics and Osteoporoses."

Based on Grantee Work

The exhibit was based on the grantees' original work on bone, histology and histophysiology. Presented in a totally new frame of reference, it featured precise definitions of the different types of osteoporosis, the nature of cell dynamics involved in their process of origin, and the problem of treating the osteoporoses.

The Silver Hektoen Medal was awarded to Drs. Daniel J. McCarty, Jr., Robert A. Gatter, Joseph Hogan, and Joseph M. Brill of the Hahnemann Medical College and Hospital, Philadelphia, for their exhibit "Crystal Induced Inflammation—Syndrome of Gout and Pseudogout."

Stressing the importance of accurate diagnoses of gout because of present prospects for definitive therapy, this exhibit outlined diagnostic tests for urate and calcium pyrophosphate crystals and summarized the radiologic and clinical features of 20 cases of pseudogout.

The Hektoen awards are the two highest awards presented at the annual AMA meeting for exhibits which are judged outstanding on the basis of originality and excellence of presentation.

26 Employees Graduate From 3rd DRS Course

Twenty-six employees of the Plant Engineering Branch, Division of Research Services, recently completed a 9-month course in Refrigeration and Air-Conditioning.

Chris A. Hansen, Chief of DRS, awarded diplomas to the group at an informal graduation ceremony in Building 13.

The course was the third conducted by PEB. It began last September. Martin L. Jeter, Head of the North Buildings Unit, PEB, was the instructor for all three courses.

Members of the recent graduating class are: Michael F. Arnone, Charles H. Barnes, Charles E. Beauchamp, Donald J. Bush, Louis C. Copeland, Robert G. Davis, Charles E. Dowling, Robert J. Dowling, Harry L. Griffiith, Kenneth B. Hamilton, Gene E. Hook, Sidney B. Kirksey and Harvey F. Looney.

Also, Warren C. McClure, Raymond L. McNeil, Bernard E. Menapace, Edward L. Nicholls, Joseph A. Patton, Richard D. Peterson, Walter M. Pole, Vincent F. Sabados, James J. Saul, Edgar R. Smith, Frank J. Tropea, Worth T. White and Clarence E. Williams.

A fourth course is scheduled to begin in September.

Study Seeks Possibility Of Lifetime Protection Against Poliomyelitis

The possibility of providing lifetime protection against polio through oral vaccination of infants will be studied at the Yale University School of Medicine under a $147.203 grant from the National Institute of Allergy and Infectious Diseases.

A team of Yale scientists will make a continuing survey of vaccinated children in the New Haven and Middletown, Conn., area to determine the children's long-term immune status, their resistance to reinfection, and their possible need for revaccination.

"It is presently believed," Acting PHS Surgeon General David E. Price said in announcing the award, "that oral vaccination in infancy might prove adequate to protect against polio more or less for life. This can be established only by the type of long-term surveillance which this project offers."

Some Problems Remain

In spite of a dwindling incidence of paralytic polio in the United States as a result of vaccinations against the disease, many important problems remain to be solved in connection with poliomyelitis and other enterovirus infections, some of which result in polio-like illnesses.

Dr. Dorothy M. Horstmann, project director, said that in addition to determining the persistence of immunity after vaccination, the study will seek reasons for the seasonal incidence of polio, and environmental factors which may be responsible for epidemics.

For a number of years, flies have been suspected as possible carriers of poliovirus, and a more recent finding has shown multiplication of the virus in flies.

Flies Are Suspect

"This latest finding has reawakened our interest," Dr. Horstmann said, "in examining once more the possible role of flies in the epidemiology of poliovirus infections."

The study will include investigations to determine the persistence, multiplication, and possible mutation of poliovirus in infected flies.

To be administered by NIAID, the research grant was awarded upon the recommendation of the National Advisory Allergy and Infectious Diseases Council. This group of consultants to the Surgeon General is comprised of leaders in science, education, and public affairs.

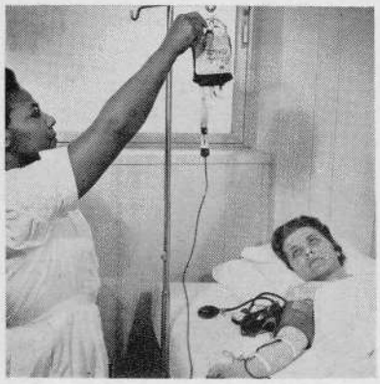
Small boy handing mother phone: "It's Mrs. Carter with the 6:30 news."—Dick Turner, NEA.

Blood Bank nurse Annie Graham checks blood pressure and temperature of a blood platelet donor, Mrs. Dorothy Davis of Buckeystown, Md.

Mrs. Davis enjoys a friendly chat with Miss Graham while blood is being collected in first step of the plasmapheresis procedure.

Blood Bank nurse places container of whole blood in centrifuge which will separate the platelet-rich plasma.

Following centrifugation, a plasma extractor makes the final separation of the platelet-rich plasma, seen in nurse's left hand.



The blood drawn earlier, now minus its platelets but containing the vital red cells, is returned to the donor.

The platelets are packaged and issued by Nurse Wanda Chappell to Donald Asson for prompt delivery and transfusion to leukemia patients.

Blood Bank, in Surgical Wing, Plans Expansion of Activities

Relocation of the Clinical Center Blood Bank in the new CC Surgical Wing was recently completed, providing some 1,000 additional square feet of much needed work space for the Blood Bank staff and prospective donors.

This additional space was essential because of increased Blood Bank activities in recent years and the introduction of a new blood transfusion process known as plasmapheresis.

Transfusions of whole blood, red cells, plasma, platelets and white cells totaled only about 4,000 in 1958, but the expected total for 1963 is over 14,000.

Completion of the plasmapheresis process requires more space and time than the normal blood donation procedure. A regular blood donation takes about 15 minutes, but plasmapheresis takes about two hours.

Platelets Extracted

This process, pictured in the adjoining columns, involves the extraction of 20 percent of the blood volume of a donor.

From this blood, platelets or white cells are spun off in a CC Blood Bank centrifuge, leaving vital red cells undamaged. The blood, minus its platelets or white cells, is then returned to the donor.

This enables him to give blood more frequently, since his supply of red cells has not been depleted. Plasmapheresis can also be used to separate other products should the need arise.

An increase in the Bank's plasmapheresis activity and the extra time involved had necessitated the use of beds for volunteer donors in the Bank's former location. This, understandably, led to a deemphasis of the volunteer donor program.

Requests Volunteer Donors

Dr. Paul J. Schmidt, CC Blood Bank Director, says the additional 1,000 square feet acquired by the Bank will be used largely for reactivation of the donor program. He expressed the hope that NIH staff members will once again actively participate in this important volunteer program.

As a part of the CC Clinical Pathology Department, the Blood Bank's new location also makes possible closer cooperation with other sections of the department in several important joint projects.

One of these is the joint operation of the isotope laboratory with the Hematology Service, providing services for important patient-care activities.

Expectations are that the new and larger quarters will be beneficial for both the Blood Bank and the Clinical Pathology Department as a whole.

Medical technologist Billie Casey inspects unit of blood in whole-blood storage refrigeration area which has a total capacity of over 2,000 units. Temperature in this outer area is maintained at five degrees Centigrade. Three larger inner chambers, with temperatures varying from -20 to -80 degrees C., are for storage of other whole blood products.—Photos by Bob Pumphrey.

CLINICAL STUDY

(Continued from Page 3)

that it was not possible to determine whether any of these deaths was related to the anesthetic.

Death may have been due to coincidental infectious hepatitis, a viral disease, which affects the liver; or to other new drugs some of which are also suspected of causing liver damage, and which were received by some of the patients.

It was pointed out that authoritative answers to the questions raised in recent months require a large-scale, carefully controlled scientific study. Plans for the national project were developed by the Academy-NRC's Committee on Anesthesia after its members first recognized and identified the problem.

Collaborating with the committee and its chairman, Dr. Emanuel Papper, Professor and Chairman of the Department of Anesthesiology, Columbia University, were outstanding authorities in biostatistics and internal medicine.

The study will incorporate the most advanced principles of experimental design, data-processing, and statistical analysis.

Henry Cram Named NIGMS Administrative Officer

Dr. Clinton C. Powell, Director of the National Institute of General Medical Sciences, has announced the appointment of Henry T. Cram as Administrative Officer.

Mr. Cram joined NIH in March of 1961 as a personnel management specialist in the Personnel Management Branch. He later served as Personnel Officer for the National Institute of Mental Health, as Staff Assistant to the Deputy Personnel Officer, NIH, and in the Personnel Office of NIGMS.

A native of Prineville, Oreg., Mr. Cram received his B.S. degree in Business Administration from the University of Oregon. He entered the Public Health Service in 1957 as Assistant Personnel Officer in the PHS Hospital in Anchorage, Alaska, where he served until March of 1961.

A member of the Society for Personnel Administration, Mr. Cram has been a licensed commercial pilot since 1946. He served with the Navy Air Corps from 1942 to 1945 in the South and Central Americas and the West Indies.

HUNTSVILLE

(Continued from Page 1)

community health problems gained by the PHS Communicable Disease Center.

With the cooperation of local and State departments of health, CDC previously had conducted demonstrations on vector control and related sanitation programs in 14 States.

Techniques developed for defining problems and for gaining community support have been adapted to a wide range of public health projects in 188 communities throughout the country. But never before has such a comprehensive control program been demonstrated in one community.

Disease Problem Surveyed

The demonstration began with a survey of the disease problems in the Huntsville-Madison County area. Data were gathered on the occurrence of infectious diseases and the levels of immunizations.

At the same time, Madison County Health Department and CDC workers started an environmental survey of the city and county to locate areas of poor housing and sanitation. Health department records were studied and methods were sought to improve disease reporting.

Here are some of the survey results.

People living in the urban areas were generally better immunized against polio than those living in rural areas. Among children from three months through four years of age, 70 percent of those in the city had had three or more injections of the Salk vaccine. Only 46 percent of those in rural areas were as adequately protected against polio. Fewer people in lower socio-economic urban areas were adequately immunized against polio and other diseases than in the middle- and upper-class neighborhoods.

Immunization Varies

Immunization against diphtheria, pertussis, and tetanus ranged from 94 percent in children under five, in the middle socio-economic urban area, to as low as 67 percent in lower socio-economic urban areas.

Men in the 20-40 age group in urban areas were best protected against tetanus, but even so only about one-third of this group was properly immunized. In one population segment, less than one percent had adequate tetanus immunization.

Influenza immunizations were relatively few. Immunization levels in the over 65 age group ranged from four to 28 percent among various urban and rural areas.

In general, school children were well immunized against smallpox, but pre-school children were inadequately protected. The overall percentages of persons immunized against typhoid within the past three years ranged from 24 percent in the urban population to 35 percent in rural areas.

Survey findings on housing are indicative of Huntsville's rapid growth, showing that 87 percent of the residences were "good," eight percent were "fair," and only four percent were "poor." In contrast, the survey also revealed many outdoor toilets and some deficiencies in the storage of refuse.

Dr. Gay Is Director

Dr. Otis F. Gay, Director of the Madison County Department of Public Health, is in overall charge of the program. Heading the CDC team assigned to Huntsville is Dr. James V. Smith. Included on his staff are Dr. James F. Jekel, medical officer, and Dr. Gladwin O. Unrau, sanitary engineer.

PHS officials made a number of recommendations for correcting deficiencies which influence transmission of disease.

Special training programs in project techniques will be conducted for health officials from other nearby communities and assistance will be provided for the development of similar control programs.

List of Latest Arrivals Of Visiting Scientists

6/13—Dr. Sushil Dua, India, Studies on Limbic Integration and Behavior. Sponsor, Dr. Paul D. MacLean, NIMH, Bldg. 10, Rm. 3N310.

6/20—Dr. Tosinobu Anno, Japan, Molecular Vibrations of p-Benzoquinone. Sponsor, Dr. Edwin D. Becker, NIAMD, Bldg. 2, Rm. SBO1A.

6/26—Dr. Tomio Ohta, Japan, Extracorporeal Carotid Circulation in Cerebral Blood Flow and Hypothermia. Sponsor, Dr. Maitland Baldwin, NINDB, Bldg. 10, Rm. 4N246.

7/1—Dr. Marc P. Mazzuca, France, Electron Microscope Studies on the Central Nervous System. Sponsor, Dr. Keith C. Richardson, NINDB, Bldg. 9, Rm. 101.

7/1—Dr. Nathan Citri, Israel, Studies on Staphylococcal Penicillinase. Sponsor, Dr. Harry G. Steinman, NIAID, Bldg. 10, Rm. 11B10.

7/1—Dr. Fay Inman Dirks, Canada, Chemical Carcinogens and Tissue Studies. Sponsor, Dr. Creed Abell, NCI, Auburn Bldg., Rm. 29.

7/2—Dr. James Preston Robb, Canada, Institute Program Analysis, Review, and Evaluation. Sponsor, Dr. R. L. Masland, NINDB, Bldg. 31, Rm. 8A52.

7/2—Dr. Javier Sagarminaga, Canada, Neuroanesthesiology, Extracorporeal Circulation in Hypothermia. Sponsor, Dr. Maitland Baldwin, NINDB, Bldg. 10, Rm. 4N246.

NIH Scientists Measure Concentration of Active Agents in Poison Ivy

National Institutes of Health scientists have employed biological and gas chromatographic methods to measure the concentration of active substances in extracts of poison ivy leaves.

The two methods for quantitative evaluation of the concentration of active agents in poison ivy extracts were reported in the Journal of Allergy recently by Dr. Harold Baer of the Laboratory of Bacterial Products, Division of Biologics Standards, and associates.

Employing a biological method which involves the use of sensitized guinea pigs, and gas chromatographic analysis, the investigators were able to measure accurately the concentration of four closely related pentadecylcatechols (PDC).

Active Substances Formed

These substances, contained in the sap of poison ivy plants, have been shown to be active in causing the contact dermatitis typical of poison oak, ivy, and sumac.

In the biological determination, guinea pigs were sensitized with three injections of an emulsion containing PDC, given at intervals and at different places.

Skin tests were carried out by dropping five microliters of an acetone or alcoholic solution of commercially synthesized PDC or poison ivy extract within the area limited by a brass ring held firmly against the clipped skin. This provided a uniform application area.

The reactions were observed after 48 hours—the time of maximal intensity—and tabulated relative to the reaction to a known PDC concentration.

Chromatography Described

The gas chromatography was carried out by Dr. Arthur Karmen, Laboratory of Technical Development, National Heart Institute, on 6-ft. helical glass columns.

Since the four poison ivy pentadecylcatechols are so closely related, determinations on natural samples yielded only a single, broad peak. After acetylation, the substances were easily separated and the chromatograph resolved into three peaks, the first of which represented two of the catechols.

The clarity of these peaks allowed an accurate quantitative assay of the total PDC concentration as well as the fractional concentration of the related catechols.

Comparison of the estimates yielded by the two processes showed reasonable agreement. The total concentration of PDC, as established by gas chromatography, was nearly equal in each case to the concentration calculated by Dr. Baer's observation of the skin reaction in sensitized animals.

Those solutions in which no reaction occurred in the animals were shown to contain less than 0.5 micrograms of PDC.

Dr. Joel Elkes Assumes Posts at Johns Hopkins

Dr. Joel Elkes has resigned as Chief of the Clinical Neuropharmacology Research Center, National Institute of Mental Health, to become Professor and Director of the Department of Psychiatry at the Johns Hopkins University School of Medicine.

Dr. Elkes

In addition he will be Psychiatrist-in-Chief of Johns Hopkins Hospital.

Dr. Elkes has also resigned his positions as Director of the Behavioral and Clinical Studies Center of St. Elizabeths Hospital and as Clinical Professor of Psychiatry at the George Washington University School of Medicine.

Dr. Elkes had been in charge of the NIMH Clinical Neuropharmacology Research Center since it was established at St. Elizabeths in 1958. A joint facility of NIMH and St. Elizabeths, the Center is the site of comprehensive studies of drugs and their use in the treatment of mental illness.

Native of England

Before he came to the United States in 1957, Dr. Elkes, a native of England, was Professor and Chairman of the Department of Experimental Psychiatry at the University of Birmingham, England, and was Scientific Director of the Birmingham Regional Psychiatric Early Treatment Center.

A frequent participant in international activities, Dr. Elkes was organizing secretary of the First International Neurochemical Symposium in Oxford in 1954; consultant to the World Health Organization on Psychotropic Drugs in Geneva in 1957; member of the central council of the International Brain Research Organization, an organ of UNESCO; and member of the International College of Neuropsychopharmacology.

Dr. Elkes was honored in 1961 by being named the first President of the American College of Neuropsychopharmacology. He is on the editorial board of Psychopharmacologia and is Associate Editor of the Journal of Psychiatric Research.

At Johns Hopkins, Dr. Elkes replaces Dr. Seymour Kety, who resigned last year to return to his previous position as Chief of the Laboratory of Clinical Science, NIMH.

NIH Investigators Isolate Milker's Nodule Virus

A poxvirus whose existence as an entity separate from vaccinia (cowpox) was proposed by Edward Jenner in 1799 has been isolated for the first time by scientists of the National Cancer Institute and the National Institute of Allergy and Infectious Diseases.

The virus was isolated from milker's nodules on the right hand and forearm of a 17-year-old boy who had been milking cows, some of which had papular lesions on their udders.

Jenner held that there are two forms of human "cowpox" infection, only one of which—vaccinia—confers immunity to variola, the virus that causes smallpox. The other form, "spurious cowpox," is presumably the infection referred to as milker's nodules, a syndrome clinically distinguishable from cowpox.

Virus Destroys Cells

The newly isolated virus has been carried for 15 consecutive passages in bovine tissue cultures, in which it begins destroying cells within one to three days.

Virus from the serial passage lines destroys cells in various nonbovine cultures, including human and rabbit tissue, but the effect cannot be reproduced on subsequent passages in these tissues.

The virus caused no ill effect when inoculated by either of two routes into one-day-old mice or onto the scarified cornea of young adult rabbits.

When rabbits were inoculated intradermally, papules developed at the site of inoculation within 24 hours and persisted for eight to 10 days, but no virus could be recovered.

The virus produced no distinct lesions on the chorioallantoic membrane of 10-day-old embryonated hens' eggs.

Particles Described

Electron microscope studies showed the virus particles to be egg-shaped; they measure 120 by 280 millimicrons. The particles appear to have a spiral structure formed by 13 bands running in the same direction; in these respects, it resembles orf virus, which causes a dermatitis in sheep, and bovine papular stomatitis virus.

The exact relationship of the milker's nodule virus to the other two remains to be determined, according to the investigators, Drs. Alvin E. Friedman-Kien, Dermatology Branch, and William G. Banfield, Laboratory of Pathology, NCI; and Dr. Wallace P. Rowe, Laboratory of Infectious Diseases, NIAID.

This work was reported in Science.

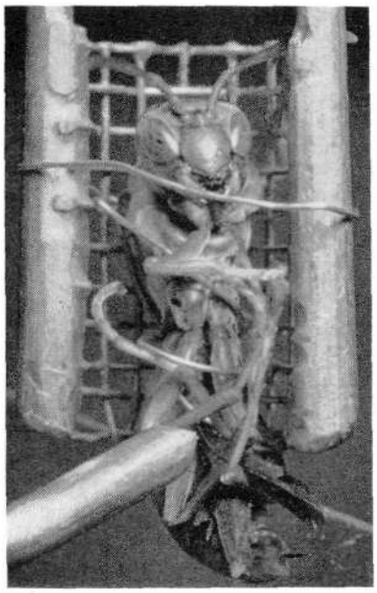
NHI Scientists Collect Wasps

(Continued from Page 1)

e Silva and associates.

Despite wide gaps in knowledge concerning bradykinin, animal experimentation results indicate that the substance may hold the key to the solution of a variety of puzzling physiologic problems.

At the present time, bradykinin is known to have five principal ac-



The anesthetized wasp, fastened to this miniature "electric chair" by wire strands, is electrically shocked by the electrode (lower left), causing it to emit its venom, collected below. —Photos by Jerry Hecht.

tivities: stimulating (slow type) smooth muscle, producing vasodilation, increasing capillary permeability, causing migration of leukocytes, and stimulating pain fibers.

Although it hasn't been proven that bradykinin functions throughout the body as the local regulator of blood flow, there is little doubt that it regulates blood flow at least in the salivary and sweat glands.

Interest Is Two-Fold

NHI scientists are interested primarily in studying the venom for its possibilities in heart research, but other scientists in the U. S. are concerned with reducing the number of fatalities caused by the wasp and other venomous animals.

Studies have shown that Hymenoptera insects (wasps, bees, yellow jackets, hornets and ants) kill more people in the United States than any other venomous animal, including rattlesnakes.

There were 460 fatalities from venomous animals in this country during the 10-year period, 1950 through 1959. Of the 460, the Hymenoptera insects which include wasps, killed 229 (50%) of the persons. Poisonous snakes killed 138 (30%), and poisonous spiders killed 65 (14%).

In the first three days of their insect gathering, the NHI team counted over 300 wasps brought in by various collectors, mostly young children.

First notice of the project came through a small classified ad placed in a local paper, in which Dr. Pisano asked for live wasps to be delivered to his office. He offered five cents for each wasp.

Youngsters started bringing the stingers in by the bagful and the peanut butter jarful. Dr. Pisano had no time to experiment for the first few days. He was deluged by wasp collectors who volunteered to help him in his work and even show him their methods of wasp-feeding.

Entire Family Arrives

One mother of six from Silver Spring, Md., arrived with all her children (the youngest 15 months). They also brought over 80 wasps, all contained in small glass jars.

The researchers were wondering if and when they would ever get down to the work at hand, what with newspaper reporters, radio and TV announcers, children, and teasing co-workers overflowing the laboratory.

But the lab was cleared after a young man came in with a bag containing over 80 wasps. When Dr. Pisano opened it, one flew out and around the room. The donors and kibitzers made a quick exit, and the doctor was left to his work.

**Recently Drs. Marion Webster and Jack Pierce of NHI determined the structure of human kallidin. They found it to be similar to bradykinin except that it contains an additional amino acid. In continuing their research, Drs. Webster and Pierce have made valuable contributions in the study of the precursors and enzymes which form kallidin.*

Drs. Leal and Eline Prado, the husband-and-wife team who are Fulbright scholars from Brazil, are pictured in their laboratory, working on the wasp-milking project.

Dr. Frank Named Acting NINDB Assoc. Director For Intramural Research

Dr. Karl Frank has been appointed Acting Associate Director for Intramural Research of the National Institute of Neurological Diseases and Blindness. For the past nine years he has been Head of the Section on Spinal Cord in the Institute's Laboratory of Neurophysiology.

Dr. Frank

As Acting Associate Director for Intramural Research, Dr. Frank will be responsible for the continuing development of the clinical and basic research programs at the Institute's laboratories here.

He will serve in a major advisory role to Dr. Richard L. Masland, NINDB Director, on the Institute's total program and will represent NINDB on the Scientific Directors' staff at NIH.

An international authority on the analysis of the electrical activity of single cells in the central nervous system, Dr. Frank's research has helped explain how the individual cells in the spinal cord contribute to the functioning of the body.

His laboratory has led in the development of techniques necessary to solve the problems of recording electrical potentials of single nerve cells in the spinal cord.

Studies Nerve Cell

He recently spent a year at the Institut Marey in Paris to begin studies of an unusually large and simple nerve cell found in Aplysia —a marine animal akin to snails but without shells.

By comparing this simple cell with complex cells in the mammalian spinal cord he hopes to form a general hypothesis about the role of the different parts of nerve cells in the integration of nervous activity in mammals.

Before coming to NIH in 1951, Dr. Frank was a biophysicist at the U. S. Public Health Service Narcotic Hospital in Lexington, Ky., and a physicist with the Naval Ordnance Laboratory in Washington.

Dr. Frank has served as a member of the Physiology Study Section, Division of Research Grants, since 1959. He was a member of the Physiology and Pharmacology of the Nervous System Exchange Mission to the U.S.S.R. in 1958. He also serves as an associate editor of Experimental Neurology.

Recently he was project director of an experimental film series sponsored by the National Science Foundation, "Experiment in Progress," that depicts the activities of scientists in their work.

Grant Supports Studies On Transplantation of Vital Human Organs

Promising new studies on transplantation of vital human organs will continue at the University of Colorado Medical Center with the help of a grant from the National Institutes of Health.

"The Colorado surgical team and others have performed successful kidney transplants," Dr. Luther L. Terry, PHS Surgeon General, said in announcing the grant, "and we are beginning to look forward to a time when healthy organs may be substituted routinely for diseased ones."

The grant of $213,893, to be administered by the National Institute of Allergy and Infectious Diseases, represents continued Federal support of a broad program of clinical research begun at the University in 1961.

Although studies are under way in the related fields of immunology, microbiology, and infectious diseases, the specific projects in tissue transplantation have been developing during the past year.

Problems Cited

Dr. David W. Talmage, Professor of Medicine and Microbiology at the University of Colorado Medical Center, who will direct the program, pointed out that the major problems involved in tissue transplantation are securing donors, developing more effective surgical techniques, and getting the body to accept the transplanted organ.

Ordinarily, the body rallies its natural defenses to combat any foreign intruder, including bacteria, viruses, or even transplanted tissues.

"Discovering ways of suppressing or circumventing this natural defense mechanism," Dr. Talmage said, "is one of the immediate goals of our collaborating scientists and clinicians."

The research grant was awarded upon the recommendation of the National Advisory Allergy and Infectious Diseases Council. This group of consultants to the Surgeon General is comprised of leaders in science, education, and public affairs.

Dave Ford, Manager of the new self-service store opened by the Supply Management Branch in the Westwood Building, checks out office workers' purchases on opening day. The first two customers are DRG Secretaries Barbara Johnson (right) and Carolyn Newsome.—Photo by Sam Silverman.

James B. Black Named To Develop Safety and Fire Protection Plans

James B. Black, Assistant Chief of the Plant Safety Branch, OAM, was appointed Chief of the Safety and Fire Protection Section, Construction and Real Estate Branch, Division of Administrative Services, PHS, effective yesterday.

In his new position Mr. Black will be responsible for establishing and developing PHS-wide safety and fire protection programs.

Mr. Black came to NIH in 1950 as the first NIH Safety Officer. He held this position until January of this year when he became Assistant Chief of the PSB.

Prior to joining NIH, he served with the DuPont Corporation, and as Safety Officer of the U. S. Naval Powder Factory at Indian Head, Md.

A native of Illinois, he received his B. S. degree in mechanical engineering from Northwestern University.

John R. Leach, present NIH Safety Officer, currently is acting as Assistant Chief of the Plant Safety Branch.

Robb, Bering Appointed Visiting Scientists Here, Will Assist at NINDB

Drs. J. Preston Robb, neurologist, and Edgar A. Bering, Jr., neuro-surgeon, have been appointed Visiting Scientists to assist the National Institute of Neurological Diseases and Blindness in reviewing present neurological and sensory research programs.

Dr. Robb comes to NIH from a professorship in the Department of Neurology and Neurosurgery of McGill University, Montreal, Canada, where he received his M. D. and M. Sc. in neurology.

Dr. Bering has been Associate Neurosurgeon at Children's Hospital Medical Center, Boston, Mass., since 1955, and Assistant Clinical Professor of Surgery at Harvard University Medical School since 1959.

Scientists Demonstrate Role of Fusobacteria In Mouth Infections

National Institute of Dental Research investigators have shown that various pure strains of oral fusobacteria and spirochetes, both separately and in combination, have pathogenic potentials.

A synergistic combination of fusobacteria and spirochetes indigenous to the oral cavity may produce ulcerative and necrotizing infections of the mucous membranes of the mouth and pharynx in such diseases as ulcerative gingivostomatitis, Vincent's angina, and noma.

Drs. E. G. Hampp and S. E. Mergenhagen of the Laboratory of Microbiology, NIDR, have demonstrated for the first time the successful and routine initiation of intracutaneous abscesses in rabbits with pure strains of *F. nucleatum* and *F. polymorphum*.

Lesions Produced

Intracutaneous lesions terminating in abscess formation and ulceration have been produced in rabbits by injecting individual pure strains of fusobacteria or combinations of fusobacteria with various pure strains of spirochetes.

Abscesses produced by individual pure strains of fusobacteria or spirochetes varied within narrow limits. Synergistic combinations of these organisms produced more fulminating lesions.

An anachoretic effect was demonstrated in the selective localization of fusobacteria in spirochetal abscesses if fusobacteria were introduced intravenously one or two days following initiation of intracutaneous spirochetal lesions.

This study, reported in the Journal of Infectious Diseases, offers a new experimental approach for studying various synergistic combinations of oral microbiota (particularly the Gram-negative flora) as they relate to oral diseases.

Judith King Manning, ORI, Dies; Leaves 3 Children

Judith King Manning, secretary to the Chief of the Press Activities and Public Inquiries Section of the Office of Research Information, died June 28 at the George Washington University Hospital.

Born in Washington, Mrs. Manning attended Roosevelt High School and graduated with honors from the University of Maryland. She was a member of the Sweet Adeline Quartet and the Chancel Choir of Chevy Chase Baptist Church.

Mrs. Manning is survived by three children, Norman, 16; Donna, 15; and David, 8; her parents, Mr. and Mrs. Harold S. King, and a brother, George, of Silver Spring. Services were held at Gawler's Funeral Home, Wisconsin Avenue, Monday, July 1, with burial in Parklawn Cemetery.

Dr. Kenneth M. Endicott Names 3 Board Members

The appointment of three new members to the National Cancer Institute's Board of Scientific Counselors, was announced recently by Dr. Kenneth M. Endicott, Institute Director.

The new members are Dr. Leon Jacobson, University of Chicago, a leader in research on the effects of radiation and on the treatment of blood disorders, including leukemia; Dr. Francis D. Moore, Peter Bent Brigham Hospital, Boston, renowned for his studies of the effects of surgery on the patient; and Dr. John J. Trentin, Baylor University, Houston, Tex., a prominent investigator in the viruses-and-cancer and immunology fields.

Dr. William U. Gardner, Yale University School of Medicine, will be the new Chairman of the Board. The other continuing members are Dr. Howard E. Skipper, Southern Research Institute, Birmingham, Ala., and Dr. Richard E. Shope, Rockefeller Institute for Medical Research, New York City.

Established in 1957, the Board meets periodically to review research being conducted by the National Cancer Institute's scientific staff and to advise on plans for future studies. Each member serves for four years.