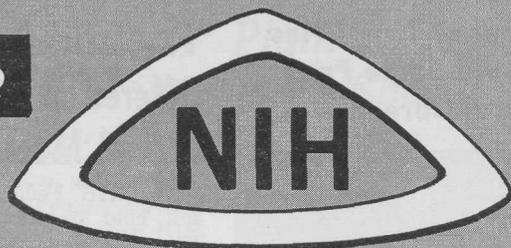


the



Record

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

January 16, 1973
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NATIONAL INSTITUTES OF HEALTH



HEW Secretary-designate Caspar W. Weinberger—in the White House office where he served as Director of the Office of Management and Budget—will replace Secy. Richardson who has been named Secretary of Defense. Mr. Weinberger says that he shares "Elliot Richardson's depth of interest and concern about the health, education, and welfare problems of this nation . . . the most important thing we should all share is a commitment to solving these problems."

Dr. Tyler Named Director Of UCD Primate Center

Dr. Walter S. Tyler has been appointed Director of the University of California Primate Center.

Dr. Tyler is a professor of anatomy at the university's School of Veterinary Medicine in Davis, where the center is located.

It is one of seven primate centers where the Division of Research Resources administers NIH grants for research in human disease, physiology, and behavior.

In 1969 Dr. Tyler served on HEW's Commission on the Health Consequences of Smoking.

He is known for his research on the effects of air pollutants on living systems and for his studies on emphysema.

He is also recognized for his leadership in the use of scanning



Dr. Tyler

Dr. Stanton Reports Fine Microscopic Fibers Cause Cancer in Laboratory Rats

Microscopic fibers of a certain size are capable of causing cancer in laboratory rats, regardless of the chemical composition of the fibers, according to Dr. Mearl F. Stanton, National Cancer Institute.

Dr. Stanton, who is with NCI's Laboratory of Pathology, reported that the cancer-causing activity of asbestos, for example, is due to its fibrous structure.

He presented the results of studies done with the assistance of Constance Wrench and Eliza Miller at a recent conference in Lyon, France, on The Biological Effects of Asbestos.

The series of experiments with laboratory rats was undertaken to test the ability of various fibrous and non-fibrous substances to cause cancer of the pleura, the membrane surrounding the lungs.

Results showed that very fine fibers of asbestos, glass or sapphire caused a high incidence of pleural cancers in the animals, while coarse fibers or powdered material of the same composition only rarely caused cancer.

Fibers Are Small

The cancer-causing fibers were between one-half and five microns in diameter and less than 80 microns long (less than one-hundredth as thick as an eyelash and under one-tenth as long).

Human mesotheliomas—cancers of the membranes lining the lungs and abdomen—occur primarily among persons exposed to asbestos dust. After asbestos fibers have been inhaled into the lungs they often lodge there, remaining for long periods of time.

Twenty to forty years may elapse before the development in man of mesothelioma or other lung diseases such as asbestosis and lung cancer. Asbestos is second only to cigarette smoke as a cause of lung cancer.

In a report published earlier this year in *The Journal of the National Cancer Institute*, Dr. Stanton and Mrs. Wrench described experiments showing how asbestos causes cancer. They used surgical methods to

electron microscopy in medical research.

Dr. Tyler holds a DVM degree from Michigan State University and a Ph.D. in comparative pathology from UCD.

Dr. Rene Dubos to Lecture On Louis Pasteur at NLM

Dr. Rene J. Dubos, the famed microbiologist of Rockefeller University, will speak on Louis Pasteur on Thursday, Jan. 25, at 8 p.m., in the reading room of the History of Medicine Division, National Library of Medicine.

He is the author of a biography of the French scientist entitled *Louis Pasteur, Free Lance of Science*.

Dr. Dubos' lecture is sponsored jointly by NLM and the Washington Society for the History of Medicine.

There is also an exhibit of Pasteur's letters, manuscripts and published writings in the NLM lobby.

implant asbestos-covered glass-mesh pads directly against the pleura of rats.

The pads remained in place until the rats were autopsied; then the pleural membranes were examined for cancer at the site of asbestos exposure.

High rates of mesothelioma incidence, ranging from 58 percent to 75 percent, were found in 450 asbestos-fiber-treated rats, regardless of which of three chemically distinct types of asbestos (crocidolite, chrysotile or amosite) were used.

Treatment with fine particles of silica, the major constituent of all types of asbestos, caused only one mesothelioma among 48 rats. Neither the chemical composition of asbestos nor the presence of impurities could account for its cancer-causing potential.

In one experiment, a sample of asbestos was ground to reduce its fibers to submicroscopic size and very short lengths. This treatment reduced cancer incidence in test

(See DR. STANTON, Page 6)

Dr. Kilbourne Gives R.E. Dyer Lecture At CC Jan. 24

Dr. Edwin D. Kilbourne, professor and chairman of the Department of Microbiology, Mount Sinai School of Medicine, City University of New York, will present the 22nd Annual R. E. Dyer Lecture on Wednesday, Jan. 24, at 8:15 p.m., in the Jack Masur Auditorium.

He will speak on *Influenza: The Last of the Great Plagues—Genetic Approaches to the Understanding and Control of an Infectious Disease*.

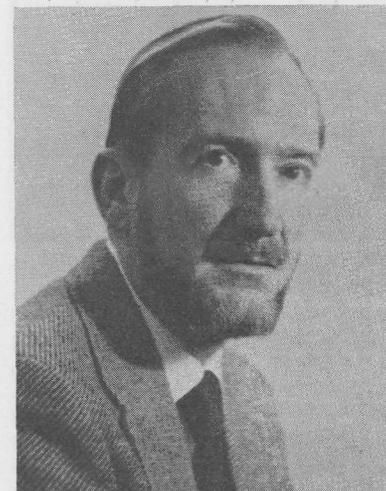
Virus Changes Frequent

Dr. Kilbourne will discuss the characteristics of the influenza virus which make it prone to frequent change, resulting in periodic widespread epidemics of the disease. This mutational nature of the virus has recently provided a key to new approaches to protective immunization.

Dr. Kilbourne, who has held his present position since 1969, received the A.B. and M.D. degrees from Cornell University and its Medical College.

His professional career began in 1948 when he became an assistant

(See DR. KILBOURNE, Page 5)



Dr. Kilbourne is the author of nearly 100 research papers. In addition, he has contributed chapters to several textbooks and co-authored two books.

the  **Record**

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NIH Record Office Bldg. 31, Rm. 2B-03. Phone 49-62125

Editor Frances W. Davis

Assistant Editor Fay Leviero

Staff Writer Ed Driscoll

Staff Correspondents

ADA, Robert Manning; BHME/OD, Florence Foelak; CC, Ann Bainbridge; DAHM, Laura Mae Kress; DCRT, Joan Chase; DDH, Carolyn Niblett; DMI, Marian R. Fox; DN, Evelyn Lazzari; DPHPE, Frank A. Sis; DRG, Sue Meadows; DRR, Jerry Gordon; DRS, Cora M. Sult; FIC, Lois P. Meng; NCI, Robert J. Avery; NEI, Bonnie Friedman; NHLI, Bill Sanders; NIAID, Krin Larson; NIAMDD, Pat Gorman; NICHD, Lloyd Blevins; NIDR, Sue Hannon; NIEHS, Elizabeth Y. James; NIGMS, Wanda Wardell; NINDS, Carolyn Holstein; NLM, Ann R. Lindsay.

NCI Launches Project At Hospital in Houston

The National Cancer Institute has launched a multi-million dollar research program on the prevention, diagnosis, and treatment of cancers of the large bowel.

The project will include both hospital and laboratory research on cancers of the rectum and large bowel.

The M.D. Anderson Hospital and Tumor Institute in Houston, Tex., will serve as project headquarters.

Employee Volunteers Needed For Cholesterol Level Study

A free cholesterol test is available to NIH employees under 55 years of age. The test, to check the levels of fat in the blood, will be given on weekdays between 8:30 and 9:30 a.m. in the Employee Health Service unit, Clinical Center.

Employees with high blood pressure or diabetes are not eligible.

Fasting at least 12 hours before the test—nothing but water or unsweetened black coffee—is essential for an accurate reading.

Employees with elevated cholesterol will be referred to the Type II Coronary Intervention Program, a special study designed to lower heart attack risk in selected patients with high cholesterol levels.

Unified Committee for Advising On Grant Applications to Meet

A 16-member committee entitled Optometry, Pharmacy, Podiatry, and Veterinary Medical Education Review Committee—formerly four separate groups—will assemble for the first time as one group on Monday, Jan. 22, for a 3-day meeting at NIH.

The committee will make recommendations on applications which include educational grants and teacher training grants. The recommendations will be reviewed by the National Advisory Council on Health Professions Education.

The committee is sponsored by the Optometry, Pharmacy, Podiatry and Veterinary Medicine Branch, DPHPE.

Booklet on Care of Feet Issued In a Spanish Language Edition

Feet First, the Division of Nursing publication on the care of the feet, has been translated into Spanish and issued in an illustrated edition with the title, *Primero Los Pies*.

The book includes rules for maintaining healthy feet, and also discusses complications and infections.

Copies at 60 cents each may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. A single free copy may be obtained from the Division of Nursing, 9000 Rockville Pike, Bethesda, Md. 20014.

Recruitment Film Wins CINE Gold Eagle Prize At Annual Ceremonies



William G. Carr (l), president of CINE, presents a Golden Eagle Certificate to Dr. Clifton O. Dummett, associate dean of the University of Southern California's School of Dentistry and project director for the film, "What About Tomorrow?"

"What About Tomorrow?"—a film developed to recruit students into dentistry by dramatizing the search of a black youth for identity and a life goal—was awarded a Golden Eagle Certificate from CINE (Council on International Nontheatrical Events) during its recent Fifteenth Annual Awards Ceremonies.

Film Explained

Produced by the National Dental Association in 1971 under contract with the Division of Dental Health, BHME, "What About Tomorrow?" emphasizes that young people should spend a portion of today preparing for the future and portrays dentistry as a rewarding career.

The certificate is awarded to

'Fantastic' Door Prize Offered at Credit Union Annual Meeting Jan. 25

The NIH Federal Credit Union will hold its annual meeting on Thursday, Jan. 25, at noon in the Jack Masur Auditorium.

The primary order of business will be the election of directors to the Board and members of the Credit Committee.

Prizes Listed

Door prizes which will be awarded include:

- First prize—a free 7-day, 7-night Caribbean cruise for two with stops at Port-au-Prince, Kingston, Montego Bay, and Port Antonio.

- Or on alternative choice—a trip for two to "swinging" London via airflight.

- Second prize — a portable color TV.

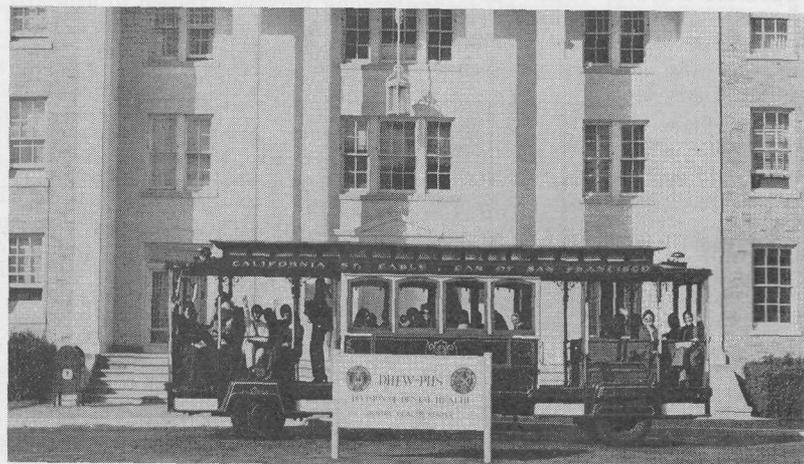
- Third prize — a tape player.

Only members of the CU are eligible to enter. Winners must be present at the meeting to receive the prizes.

The guest speaker will be J. Deane Gannon, deputy administrator for the National Credit Union Administration and former director of the Bureau of Federal Credit Unions.

In the past 3 years, assets of the CU have grown from \$6 million to more than \$27 million. Out of nearly 13,000 credit unions in the U.S., NIH's now ranks in the top 30.

those films which CINE considers most appropriate for international competition. Last spring "What About Tomorrow?" won a first place Gold Camera Award at the U.S. Industrial Film Festival.



Nearly 300 hygienists attending the recent 49th annual meeting of the American Dental Hygienists' Association were open house guests of the Education Development Branch, Division of Dental Health, BHME, at its Dental Health Center in San Francisco. EDB staff presented the Division's activities affecting public, dental, hygiene, and dental assisting education programs. The hygienists traveled to the center by cable-car bus.

R.E. Learmouth Retires; In Fed. Gov't 37 Years

Robert E. Learmouth, executive officer of the Bureau of Health Manpower Education, retired Jan. 6 after 37 years of Federal service.

Mr. Learmouth, who joined NIH in 1952 as chief of its Financial Management Branch, was executive officer of the National Cancer Institute from 1955 to 1970 when he transferred to BHME.

He began his Government career during the Depression as a messenger in the Farm Credit Administration, and by the time he left in 1939 to take a post as a Federal Credit Union representative he had become an accounting clerk.

During World War II, Mr. Learmouth was principal accountant and assistant director of finance for war training programs in the Office of Education.

In 1946 Mr. Learmouth became a systems accountant in the War Assets Administration, and later that year joined the Public Health Service as chief of its Management Section.

He also served in the Office of the Surgeon General for 3 years



Mr. Learmouth's honors include the Superior Accomplishment, HEW Superior Service, and HEW Distinguished Service Awards.

as an organization and methods examiner.

His retirement plans include continued residence in Rockville and affiliation with Universities Associated for Research and Education in Pathology.

Few Employees Get Holiday On Presidential Inauguration

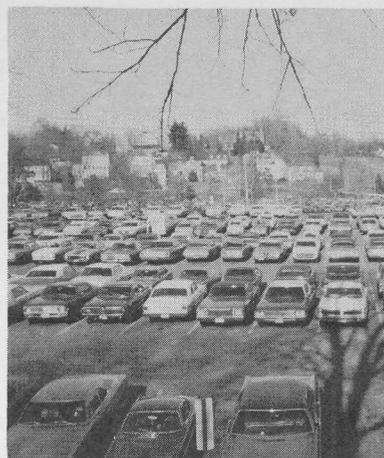
Inauguration eve, Friday, Jan. 19, will be a regular work day for Federal employees in the Washington, D.C. metropolitan area.

Inauguration Day, Saturday, Jan. 20, is a legal holiday for pay and leave purposes *only* for those employees in the District of Columbia and adjacent areas whose schedules include that Saturday as a regularly scheduled work day.

Plans to Ease Parking Problems Include More Spaces, Stress on Obeying Rules



When NIH maintained a "park anywhere" policy, some employees did just that (left). The present system has produced more order (right), but many violations of the parking regulations still occur.



Punctuality at NIH does have its rewards; finding a parking space close to the employee's office is one of them. Claiming a space may soon be somewhat easier when 401 new spaces now under construction are completed.

If weather permits, 198 spaces east of Old Georgetown Road off Center Drive, 79 spaces north of the National Library of Medicine, 70 spaces west of Bldg. 10, and 54 spaces south of Bldg. 10 will be ready for use by next month.

Yet the construction of expanded parking areas alone will not remove the main obstacle to an efficient and effective parking system—failure to obey regulations. This results in inconvenience and expense, in the form of parking tickets, for all those using NIH parking facilities.

For many years, NIH maintained a "park anywhere" policy, but frequent blocking of driveways, fire hydrants, access roads and other vehicles forced the Parking and Traffic Control Section to devise a more formalized system.

A survey was taken of parking at other large Government installations, and the best elements of each of their systems were combined and instituted at NIH in April 1971.

A recent analysis of parking tickets issued at various agencies shows that NIH has compiled a much better record (.62 tickets/100 spaces) than either the Pentagon (3 tickets/100 spaces) or DHEW (almost 4 tickets/100 spaces).

However, despite this record and the Parking and Traffic Control Section's efforts to publicize the regulations, the level of parking tickets issued has not decreased since the new system began.

The record for "The Most Frequent Violations" is shared between improper use of green permits and illegal parking in visitors' spaces.

Illegal use of spaces reserved for cars displaying red permits and parking in undesignated areas also contribute to the overall problem.

To keep the parking situation under control, five monitors carefully patrol the lots checking windshields for NIH decals and recording license plate numbers of visitors' cars.

These numbers are kept on file and investigated to be certain that the owner of the car is a legitimate visitor on campus.

Not too long ago, up to 300 spaces across campus used to remain vacant throughout the day. Today it's unusual to find as many as 20 spaces free, and the reduced numbers of employees on vacation during winter months compound the problem.

Receiving a parking ticket means posting collateral of at least \$5 or appearing before a U.S. magistrate to explain the circumstances of the violation.

However, a review of the full listing of parking regulations in the yellow pages of the *Telephone and Service Directory* may prove to be a wise dose of preventive medicine for all employees who share the 6,900 spaces on the reservation.

Students Named to DN Council

Three student nurses have been appointed to the National Advisory Council on Nurse Training. They are:

Marilyn Jean Varner, a senior at the Wilkes-Barre General Hospital School of Nursing; Esther M. Hamlet, who at the time of her appointment was attending Brevard Junior College, and is now a nurse at Florida Hospital, Orlando, and Barbara Ann Christopherson, a recent graduate of the Washington School of Nursing.

DCRT Brochure Lists New Spring Courses

A brochure describing the spring 1973 courses offered at the Division of Computer Research and Technology is available at all B/I/D personnel offices and the Computer Center Branch Technical Information Office, Ext. 65431.

The curriculum features a series of new courses to teach scientists how to use DCRT's research computer, the PDP-10. This machine is *not* used for ordinary data processing applications so only those interested in scientific computing should apply.

Courses Cited

The new courses include Programming for the Scientist on the PDP-10; APL on the PDP-10, and Graphics Programming on the PDP-10.

Courses of more general interest are: Introduction to the IBM Time-Sharing Option (TSO) at NIH, Resource Allocation Strategies in Operating Systems, Image Processing in Bio-medicine, and Pattern Recognition Methods Illustrated with FORTRAN Programs.

The brochure outlines registration procedures, pertinent dates, and deadlines.

Application forms should be sent to the employee's personnel office. Applications will be accepted until classes are filled; if a class is oversubscribed attempts will be made to start a second section.



Upon his return from an exchange visit to the USSR, Dr. Paul Carbone delivered a doll from young Soviet patients. The accompanying card read, "The children of the Pediatric Service for the Petrov Institute, Leningrad, send you this little boy together with their best wishes for a merry Christmas and a happy new year." Terry Merriman (seated left), Pamela Pinney (standing), and Anne Bostrom receive the gift as Dr. Philip Cohen, NCI, and Peggy McDonald, CC, observe.

NIGMS Supports Research on Trauma— 'Neglected Disease' of Modern Society



Dr. G. Tom Shires uses modern computerized equipment specially adapted to monitor the vital signs of patients in Parkland's four-bed research unit. Clinical research is carried out on critically-injured patients who are kept alive through the coordination of therapeutic needs and research discoveries.

First in a Series on Trauma Research Centers

Trauma is called the "neglected disease" of modern society. It is the leading cause of death from one to 44 years, and the fourth leading cause of death for all age groups.

Approximately one of every four Americans suffers an accident of some degree. There are over 100,000 deaths annually. Disabling injuries number 11 million, including 400,000 which result in some degree of permanent impairment.

It is estimated that about one out of every eight beds in general hospitals in the United States is occupied by an accident victim.

This exceeds the number of bed-days required to care for four million babies born each year or for all the heart patients, and it is more than four times greater than that required for cancer patients.

As late as 1965, very little was done in the medical community to single out trauma victims to determine the extent of injury and the best methods of therapy.

The National Institute of General Medical Sciences met in 1966 with physicians, mostly surgeons, to discuss an approach to this problem.

Program Developed

As a result of this meeting, NIGMS developed a program to grant research funds for the study of trauma to reduce mortality and disability of injured patients.

Today, NIGMS supports eight centers—in Albany, N.Y., Boston, Buffalo, Cincinnati, Dallas, Jackson, Miss., New York City, and San Francisco—and 28 individual projects concerned with trauma research.

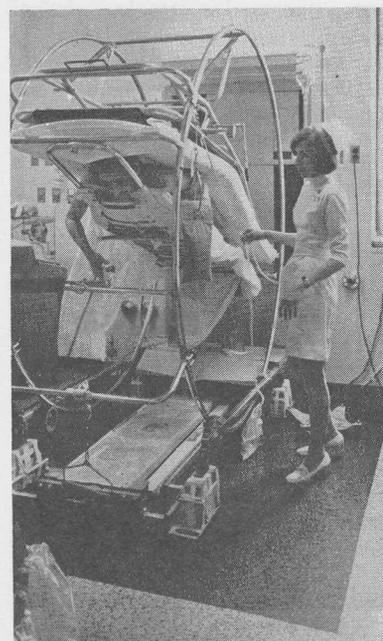
The project investigators study one particular aspect of the body's response to injury.

Scientists at Columbia-Presbyterian Medical Center, New York City, measure gas exchange, energy production and changes in pro-

tein, and carbohydrate metabolic pathways.

This provides information for estimating the response to injury, efficiency of wound repair processes, composition and effectiveness of supplemental feedings after injury, and optimum dietary and exercise regimens for convalescence from injury.

They also create mathematical models for energy production and utilization pathways following injury, and are working on the ac-



Carolyn Emig, a head nurse at Columbia-Presbyterian, operates a circle bed—one of many valuable tools used to study changes in energy metabolism of bullet wound patients.

Dental Educators Survey Published in Directory

The fifth edition of the Directory of Dental Educators has been published by the Office of Educational Resources and Studies of the American Association of Dental Schools.

The publication is based on the 1971-72 Survey of Dental Educators, made by the AADS under contract with the Division of Dental Health, BHME.

Tables Included

The directory provides information on 10,651 dental educators representing 58 U.S. dental schools, four U.S. schools which offer only advanced education programs, and nine Canadian dental schools.

The publication includes a number of tables which differentiate the numbers of dental educators in terms of their academic degree, academic rank, and primary teaching responsibility.

Dental faculty are listed alphabetically, by primary teaching area, and by dental school affiliation.

The *Directory of Dental Educators, 1972-73* is available for \$5 from the American Association of Dental Schools, 1625 Massachusetts Avenue, N.W., Washington, D.C. 20034.

quisition of specific physiologic data to validate these models.

Studies of causes for the loss of body weight, which is often severe following injury, have been conducted in great detail in a few patients.

It appears that unusual retention or excretion of water relates to a change in tissue fuel from carbohydrate to fat.

According to the center's studies of blood flow and oxygen utilization after injury, as long as patients are able to increase cardiac output, they appear to tolerate anemia adequately.

However, when poor circulation or weakened cardiac contractions supervene, tissue oxygen demand must be met by extracting more oxygen from blood. In these circumstances, even a little anemia can be dangerous.

Since it has been shown that it is possible to keep infants and adults alive for long periods by intravenous feedings, the role of the treatment in the metabolic changes from trauma is being studied.

Specifically, the composition of the feedings with respect to calories, protein, and carbohydrates is being determined, while the effects of various combinations of nutrients on tissue energy supplies and metabolic pathways are being compared.

The research team in the NIGMS-supported Trauma Research Center at the University of Texas South-

Westwood Bldg. Links To NLM's MEDLINE

"Hello from Elhill II" is a familiar greeting to several Westwood Building employees who have utilized a terminal recently acquired by the Research Analysis and Evaluation Branch linking it to the National Library of Medicine's MEDLINE (Medlars on Line).

MEDLINE provides a bibliographic searching capability for medical schools, medical libraries, hospitals, and research institutions throughout the country.

The system operates on NLM's IBM 370/155 computer and can support up to 50 simultaneous users.

MEDLINE can be used by teletype, TWX, IBM 2741, and other terminals operating at 10, 15, or 30 characters (letters) per second.

Searches 1,200 Journals

It can search approximately 1,200 journals listed in the *Index Medicus*, covering the period from January 1970 to the present.

The search can be on any one or a combination of scientific terms, author, journal, time period, etc.

A limited number of citations can be printed at the terminal. As many as 300 can be printed offline with delivery in 2 to 3 days.

All B/I/D personnel in Westwood are encouraged to make use of the facility which will be provided without charge. Assistance and training can be provided by RAEB staff; call Lester Geiger, Ext. 67851.

western Medical School, Parkland Memorial Hospital, Dallas, studies the measurable reductions in plasma volume and in extracellular fluid which are responses to injury.

These changes in body fluid space are the key to successful restoration of circulating blood volume and to preservation of cellular function following trauma.

They are particularly important after massive crush injuries and burns.

Scientists have devised an intracellular ultra-micro-electrode to study changes in permeability of muscle cell membranes due to trauma. It also aids in the evaluation of cellular metabolism elsewhere in the body.

The center's investigations into changes in blood flow patterns to the kidney after injury are an attempt to explain its particular vulnerability to trauma.

Pulmonary function has been found to be impaired for several weeks after injury despite apparent normal chest X-rays. With the help of radioisotopes, the researchers hope to determine the causes and extent of this decreased ventilatory function.

DR. KILBOURNE

(Continued from Page 1)

at the Rockefeller Institute and assistant resident physician at the Rockefeller Institute hospital.

In 1951 he joined the staff of Tulane University as associate professor of medicine and director of the Division of Infectious Disease in the Department of Medicine.

Returning to his alma mater in 1955, Dr. Kilbourne became associate professor of public health and preventive medicine and director of the Division of Virus Research. In 1961 he became professor of public health.

Affiliations Listed

Dr. Kilbourne is a member of several scientific societies and advisory groups. He has served on the Commission on Influenza of the Armed Forces Epidemiological Board since 1959, Health Research Council of the City of New York since 1968, and Scientific Committee of the Community Blood Council of Greater New York since 1963.

He is also chairman of the Subcommittee on Influenza established as a part of the NIAID Infectious Disease Advisory Committee in 1971 to plan for the next anticipated pandemic (worldwide epidemic) in the late 1970s.

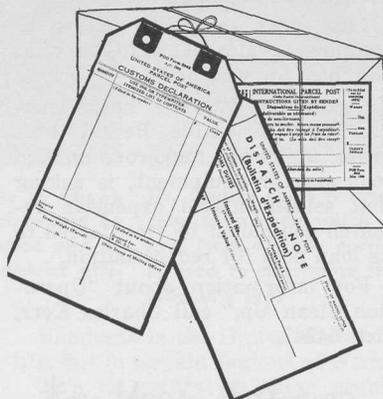
In addition, he is on the editorial board of a number of scientific journals. The author of nearly 100 research papers, Dr. Kilbourne has contributed chapters to several texts and co-authored two books.

The Dyer Lecture was established in September 1950 to honor the late Dr. Rolla Eugene Dyer, a former NIH Director and Director

NCI and Bristol Labs Enter Agreement For Later Marketing of Cancer Drugs

The first formal agreement between the National Cancer Institute and a pharmaceutical firm for the eventual marketing of certain cancer drugs was announced by Dr. C. Gordon Zubrod, Director of NCI's Division of Cancer Treatment.

The firm, Bristol Laboratories, Syracuse, N.Y., a division of Bristol Myers Company, was selected after competitive bidding by several major pharmaceutical firms.



Certain declarations and tags must accompany each package being sent to a foreign country. In addition, each country has its own rules and regulations concerning parcels. Unless an item meets those standards it will be returned by the country. Before mailing a package outside the U.S., contact the Mail Service, Ext. 65651, in order to avoid delay.

of the Division of Infectious Diseases (now NIAID).

Each year the Dyer Lecturer is selected by the Director of NIH—with the advice of his senior scientific staff—from among scientists who have made important contributions in either medical or biological research, particularly in the field of infectious diseases.

The drugs are BCNU, CCNU, and methyl-CCNU. They were developed and tested in the Division's research programs. The clinical studies were accomplished under an Investigational Exemption for New Drugs submitted to FDA.

Of the three drugs, only BCNU testing in animals and its clinical evaluations in cancer patients have been completed at this time. Such testing establishes the usefulness of potential cancer drugs, the range of their side-effects, and the effective and tolerated dose levels.

Under the agreement, Bristol Laboratories will submit to FDA a New Drug Application that must be approved before any new drug can be marketed. Once the NDA has been approved, Bristol Laboratories will make and market BCNU.

Agreement Limited

According to the agreement, Bristol Laboratories' obligations are limited only to BCNU. NCI will continue to foster research and to collect and evaluate cancer therapy data for CCNU and methyl-CCNU.

If the usefulness of these drugs continues to be shown, Bristol Laboratories will be offered the first opportunity to file New Drug Applications for CCNU and methyl-CCNU, but the drug company has the right to refuse this offer.

If the company does refuse, NCI, through competitive bidding, will locate another firm to manufacture these drugs.

The cancer drugs that are already on the market, although tested in NCI's drug research program, were almost all originated by pharmaceutical companies.

Company Keeps Rights

In those cases, each company that developed a cancer drug gained all rights to it, with no obligations to NCI.

The present three drugs belong to a class of compounds called nitrosoureas. BCNU [1,3-bis (2-chloroethyl) - 1 - nitrosourea] and CCNU [1-(2-chloroethyl)-3-cyclohexyl-1-nitrosourea] are able to cross a cancer patient's blood-brain barrier to act against malignant cells hidden in the central nervous system.

This is a valuable property that few cancer drugs have. Preliminary evidence suggests that methyl-CCNU [1-(2-chloroethyl)-3-(4-methyl-cyclohexyl)-1-nitrosourea] also has this characteristic.

Dr. James Gillette Heads NHLI's Pharmacology Lab



Dr. Gillette joined the NHLI lab after receiving his Ph.D. in biochemistry from the State University of Iowa.

Dr. James R. Gillette has been appointed chief of the Laboratory of Chemical Pharmacology, National Heart and Lung Institute. He is replacing Dr. Bernard B. Brodie who has retired.

The laboratory which Dr. Gillette heads is concerned with what the body does to drugs as well as what drugs do to the body. This research includes the exploration of clinically important mechanisms of drug toxicity and detoxification.

Dr. Gillette's specific research interests include the elucidation of the mechanisms of drug-induced toxicities and of the enzyme systems that metabolize drugs and other foreign compounds.

Dr. Gillette joined the laboratory in 1954, soon after he received a Ph.D. in biochemistry from the State University of Iowa.

He served as deputy chief of the laboratory from 1967-71, and as acting chief since January 1971.

In clinical trials in the investigational stage, BCNU has been helpful in the treatment of glioma, a type of brain tumor; advanced Hodgkin's disease and reticulum cell sarcoma, cancers of the lymph system; multiple myeloma, cancer of bone marrow cells; melanoma, an uncommon and often fatal type of skin cancer, and to a lesser extent in cancers of the breast, colon, and lung.

In clinical studies not yet complete, CCNU has been active against glioma, advanced Hodgkin's disease, and cancers of the breast, colon, and lung.

Animal tests have been completed for methyl-CCNU but clinical evaluations have just begun. In experimental tumor systems, methyl-CCNU demonstrated activity in mice against lung tumors, breast tumors, and melanoma.

Dr. Saul A. Schepartz, associate scientific director, Drug Research and Development, NCI, will administer the agreement with Bristol Laboratories.



U.S. SPECIAL POLICE AT NIH—attending the sixth graduation are (l to r) seated: Ralph A. Stork, chief, Protection and Parking Branch, OAS; William Harris, planning officer, Protection and Safety Management; Pfc. Arthur Blanchette, class representative; Capt. Richard F. Jones, head, Guard Force; Frances Adamski, OAS personnel specialist, and William C. Wright, police training officer. Standing are: Sgt. John I. Knight; Pfc. Michael M. Seback; John L. Hopkins, PHS Hospital officer, Baltimore, Md.; Pfc. Samuel W. Hood; Pfc. Walter R. Davis; Pfc. Curtis B. Price; Pfc. Willie Gibson, Jr.; Pfc. Joseph W. Smith; Pfc. Council Nedd, and Pfc. Labat T. Fletcher, winner of the "High Scholastic" Award with a 99 percent average.

Twelve Medical Centers Concentrate on Research Against Breast Cancer

The National Cancer Institute has awarded contracts to 12 research centers as part of a multi-million dollar research effort against breast cancer.

The research contracts were awarded by the Experimental Biology Subcommittee of the Breast Cancer Task Force.

According to Dr. Pietro Cullino, NCI, chairman of the Subcommittee, research will be aimed toward a better understanding of how normal breast tissue functions, and of the changes that occur as the breast becomes cancerous.

Dr. D. Jane Taylor, head, NCI Endocrine Related Tumor Systems Section, is project officer.

Breast cancer is the most common form of cancer among American women, striking 70,000 women and causing 31,000 deaths a year.

Hormone imbalances may play an important role in the development of the disease, and in some patients it has been possible to cause temporary regression of their cancers by altering hormone levels in the body.

Study Growth Conditions

Roswell Park Memorial Institute scientists will determine what conditions are favorable for the growth of normal and cancerous human breast cells in the test tube.

Under another contract, other scientists at that institute will investigate breast cancer metastasis, the spread of cancer from the breast to various parts of the body.

At the Medical College of Pennsylvania and the University of Southern California Medical School, researchers will grow cancer cells from different patients. They will



Prof. N. M. Emmanuel (l), Director of the Institute of Chemical Physics in Moscow, USSR, and a cancer chemotherapy researcher, discusses his manuscript with Dr. Abraham Goldin during a visit to NCI last month. Dr. Goldin, associate chief for Laboratory Research, Drug Research and Development, in NCI's Division of Cancer Treatment, gave Prof. Emmanuel several drug samples for research.

study how the cells change as they grow in the test tube. From such observations, they hope to predict how the disease will progress in individual patients.

Similar research at the University of California School of Medicine, San Francisco, will focus on the hormonal requirements of mammary tissue cultures.

Scientists at the University of Chicago's Ben May Laboratory for Cancer Research, Duke University and the University of Texas Medical School, San Antonio, will study how the female hormone estrogen and other hormones bind to mammary cells and affect the cell's activities.

Research at two universities — Pennsylvania State and Case Western Reserve—will focus on prolactin, a hormone secreted by the pituitary gland which is suspected of playing a major role in breast cancer growth.

Scientists at Stanford University have found that blood contains an unknown factor that stimulates breast growth.

Seek Unknown Factor

They will attempt to isolate and identify this substance and determine how it may interact with hormones in its effect on breast cells.

At the University of Illinois, scientists will study changes in the breast during pregnancy that lead to the ability to produce milk, and the reverse changes that occur when milk is no longer needed.

Related research will be undertaken at the Worcester Foundation for Experimental Biology, where studies will aim at an understanding of how various hormones affect membranes within normal and cancerous mouse mammary cells.

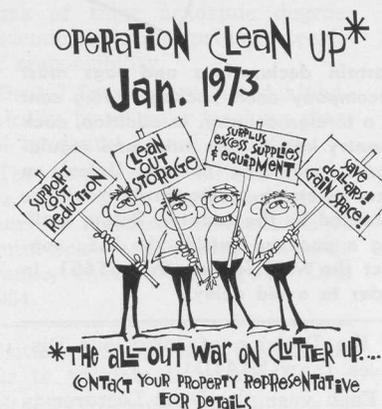
All Units Asked to Aid 'Operation Clean Up'

"Operation Clean Up"—the annual campaign to utilize idle equipment and supplies at NIH—is now taking place with property representatives visiting off-the-reservation buildings this week and on-the-campus buildings next week.

Last year over 500 pieces of equipment, valued at \$120,709, were obtained for reissuance.

Concurrent with the "housecleaning," the Scientific Rental Program, which has numerous unfilled requests for equipment, is asking that seldom used expensive research equipment be transferred to its loan pool for redistribution.

For information about "Operation Clean Up," call Charles Kerr, Ext. 64247.



DR. STANTON

(Continued from Page 1)

rats to less than half the rate in rats exposed to natural fibers of asbestos.

The glass-mesh pads alone did not cause cancer, but mesotheliomas occurred in rats exposed to glass that had been treated to reduce it to small fibers, making it comparable to asbestos in size.

Dr. Stanton also described more recent studies designed to test whether particle size and shape are the critical factors in causing this type of cancer.

In these experiments, rats were exposed by the same technique as before to particles of asbestos, glass or aluminum oxide of many different sizes and shapes.

After 2 years, fibers of all three materials have been found capable of causing high rates of pleural cancer in rats.

Two standard samples of asbestos, two of very fine fibrous glass, and a sample of fine sapphire (aluminum oxide) "whiskers" caused cancer in more than half of the 150 rats that have so far been autopsied.

Lower rates of cancer, between 5 and 40 percent, occurred in rats

NIH Visiting Scientists Program Participants

12/21—Dr. Gatram R. K. Rao, India, Laboratory of Biochemistry and Metabolism. Sponsor: Dr. Maxine Singer, NIAMDD, Bg. 10, Rm. 9N114.

12/22—Dr. Cheng-yien, Taiwan, Laboratory of Biology of Viruses. Sponsor: Dr. Norman P. Salzman, NIAID, Bg. 5, Rm. 324.

12/24—Dr. Daniel E. Schweid, U.S., Medical Neurology Branch. Sponsor: Dr. W. King Engel, NINDS, Bg. 10, Rm. 10D16.

1/2—Dr. Albert J. McQueen, United States, Laboratory of Socio-environmental Studies. Sponsor: Dr. Melvin L. Kohn, NIMH, Bg. 10, Rm. 3D54.

1/2—Dr. Jan DeStoppelaar, The Netherlands, Laboratory of Biological Structure. Sponsor: Dr. Howard A. Bladen, Jr., NIDR, Bg. 30, Rm. 218.

1/2—Dr. Naomi Mutsuga, Japan, Surgical Neurology Branch. Sponsor: Dr. John M. Van Buren, NINDS, Bg. 10, Rm. 4N236.

1/2—Dr. Jacqueline Plowman, United Kingdom, Section on Intermediary Metabolism. Sponsor: Dr. Gordon Guroff, NICHD, Bg. 10, Rm. 5B09.

1/2—Dr. Tsutomu Takeuchi, Japan, Physiology and Biochemistry Section. Sponsor: Dr. Eugene Weinbach, NIAID, Bg. 5, Rm. 134.

1/2—Dr. Yvonne L. Wewerka, Switzerland, Hematology and Supportive Care Branch. Sponsor: Dr. Arthur S. Levine, NCI, Bg. 10, Rm. 6B04.

1/2—Dr. Sylvain Pitzele, Belgium, Medical Devices Applications Branch. Sponsor: Dr. Clarence Dennis, NHLI, Westwood Bldg., Rm. 6A18.

1/3—Dr. Gerd Assmann, Germany, Molecular Diseases Branch. Sponsor: Dr. Donald Fredrickson, NHLI, Bg. 10, Rm. 7N214.

treated with either long, thick fibers or short, thin fibers of glass or asbestos.

None of 150 rats exposed to two samples of fully pulverized asbestos, non-fibrous aluminum oxide, or two samples of glass with large fibers have so far developed any cancer.

"We know that asbestos fibers cause cancer in man," said Dr. Stanton. "We have no evidence on whether other kinds of fibers will also prove hazardous.

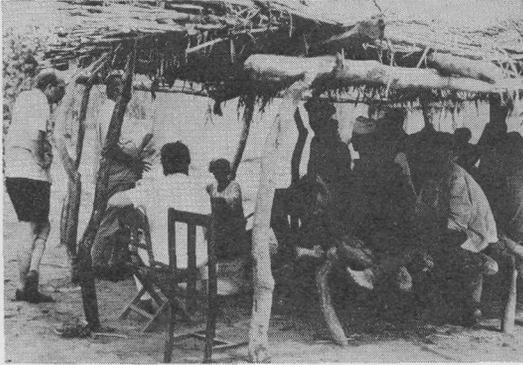
"It's rare to find other substances with fibers the same size as asbestos, and few people are known to have been exposed to them.

"But the results in animals suggest that it would be judicious to avoid inhalation or ingestion of any finely particulate fibrous material," he further explained.



Helen V. Foerst (r) receives the PHS Commendation Medal for "sustained high quality work performance . . ." from Division of Nursing Director Jesse M. Scott. Miss Foerst is a nurse consultant in DN's Manpower Evaluation and Planning Branch.

WHO Team Gathers Data on Onchocerciasis in West Africa for Project to Treat, Control the Disease



The WHO team selected several villages in Ghana for preliminary visits to determine which would be suitable for study. If the village was picked and its chief agreed, then the cooperation of district officials was also obtained.



Dr. Ganley snips a small slice of conjunctiva (mucous membrane which covers the front part of the eye) from a study participant. This biopsy specimen is used to determine the microfilarial count in the villager's eye.



Participants were examined for signs of onchocercal infection. To determine their visual acuity, the research team administered the "illiterate E" test—identifying E's in decreasing size rotated in different directions.

Roscoe L. Bloss Assigned To Study Biotechnology At DRR for 9 Months

Roscoe L. Bloss, chief of the Engineering Mechanics Section of the National Bureau of Standards, has been assigned to the Biotechnology Resources Branch of the Division of Research Resources for 9 months as a Science and Technology Fellow.

Sponsored by the Department of Commerce, the Science and Technology Fellowship Program selects about 15 senior staff members each year for temporary assignment to a technically oriented bureau outside their own organization.

Participants spend a week on Capitol Hill observing congressional operations, and receive a week of intensive training conducted by the Brookings Institution. They also attend weekly seminars and visit selected scientific organizations.

Mr. Bloss received his B.S. degree in engineering physics from the University of Colorado in 1950. He has written more than 30 papers and technical reports.



Mr. Bloss is interested in instrumentation and its applications to research on mechanical properties of materials and structures.

Blindness in the United States is often considered a threat to a way of life, but in certain regions of Africa, blindness is an accepted way of life.

"It's as natural to these people as childbirth; going blind is to be expected," explains Dr. James P. Ganley, an ophthalmologist and epidemiologist in the National Eye Institute.

Dr. Ganley recently served on one of seven World Health Organization teams organized to investigate the prevalence of a systemic disease which is second only to trachoma as a leading cause of blindness in Africa.

The disease, onchocerciasis, is transmitted by bites from infected flies. Victims of the disease host a strain of filarial worms that cause the development of skin nodules and eventual blindness.

Although onchocercal infection occurs early in life, visual impairment usually progresses slowly. However, over 50 percent of the population examined were blind from this disease by the age of 50.

WHO's Seven Nation Volta River Onchocerciasis Treatment Project is a large-scale, long-term program to control the disease in the region of West Africa drained by the Volta River and its tributaries.

Because the fly larva which transmits onchocerciasis requires oxygenated water for its life cycle, blindness rates are highest near the rivers.

People in these areas also die more quickly and "eventually whole villages die out, and large tracts of very fertile land are left uninhabited," Dr. Ganley said.

The people are so attached to the land that they won't move away even when they know about the possibility of disease and the eventual blindness.

Dr. Ganley and other members of the WHO team spent one month this past fall in the Upper Region of Ghana, gathering base-line data on the prevalence of onchocerciasis and the frequency of blindness associated with the disease.

Six villages, ranging from 55 to 464 people, were selected for study.

Dr. S. Bondurant Joins NHLI Advisory Council

Dr. Stuart Bondurant has been appointed to the National Heart and Lung Advisory Council.

He is Robert B. Lamb Professor and chairman, Department of Medicine, Albany Medical College, and physician-in-chief, Albany Hospital.

Dr. Bondurant previously served as chief of NHLI's Medical Branch, Artificial Heart-Myocardial Infarction Program from 1966-67; and thereafter as a member of the Advisory Committee of that program until 1969.

Blindness rates varied among the villages, but overall, approximately 9 percent of the total population were socially blind—that is, visual acuity of 20/200 or worse in the better eye.

Total blindness, or no light perception in either eye, for the entire population was 2.7 percent.

The rate of social blindness in this region is approximately 35 times higher than that for non-white U.S. population in 1968.

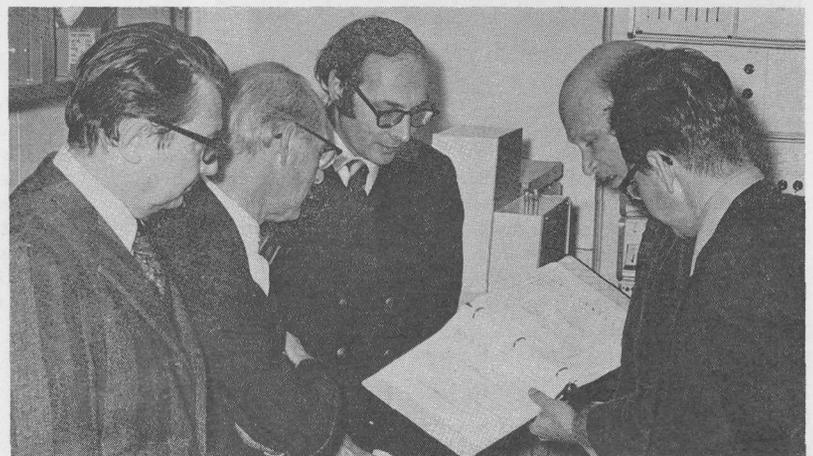
Dr. Ganley estimates that about 70 percent of blindness in the area studied is caused by onchocerciasis.

Two drugs available for treating the disease have serious side effects, but the ultimate goal of the WHO project is the eradication of the fly whose bites are responsible for transmitting the disease.

This can be done through a mas-

sive and prolonged spraying project. The larva of the fly are extremely sensitive to a slightly higher concentration of DDT than is contained in U.S. rain water.

The spraying would have to be done continuously—for 10 to 15 years—and would have to cover all known waterways in a wide area.



The National Institute of Neurological Diseases and Stroke, the American Epilepsy Society, and the Epilepsy Foundation of America jointly sponsored a recent workshop in New York City on Laboratories for Determination of Antiepileptic Drugs in Serum. Drs. J. Kiffin Penry and Harvey J. Kupferberg, NINDS, were moderators. Discussing antiepileptic drugs are (l to r): Dr. Henn Kutt, Cornell University Medical College; Dr. Robert S. Melville, NIGMS; Dr. Allan L. Sherwin, McGill University College of Medicine; Dr. Kupferberg, and Dr. Charles E. Pippenger, Columbia U. College of Physicians and Surgeons.

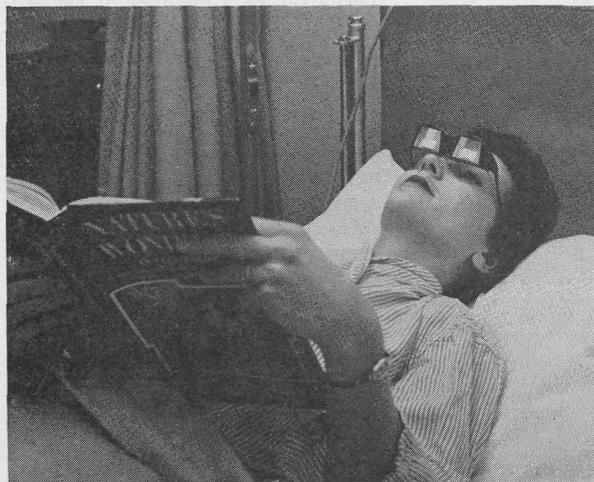
The Patient's Library—An Oasis in the Clinical Center



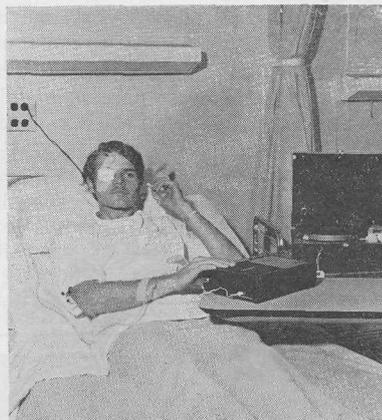
A patient consults with Mrs. Swim about books on the bestseller list. In the background on the right, a Red Cross volunteer is loading a book cart with magazines and periodicals prior to starting her rounds to bedridden patients. The staff is also assisted by normal volunteers, patients, and members of the Junior Woman's Club of Chevy Chase, Md., Inc.



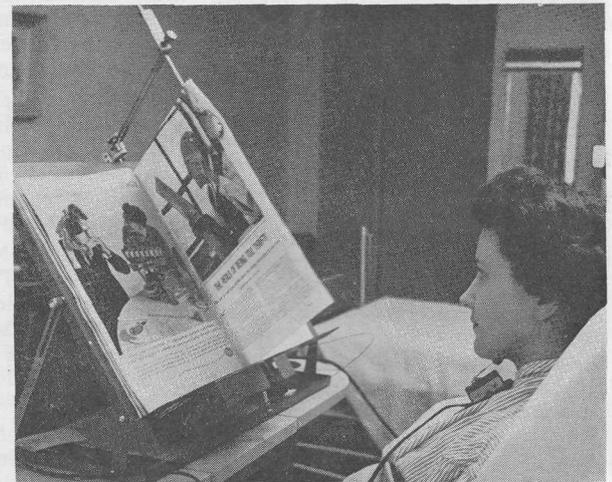
In a corner of the library that's all their own, young CC patients listen enthralled as Mrs. Swim reads a bedtime story—perhaps a fairy-tale, or a story about a folk-hero or a foreign country. Books on games and crafts are also kept here. Bedridden young patients are not deprived of their story hour, volunteer readers take over that pleasant task.



Patients with vision difficulties are not forgotten. Magnifying glasses help them to read books and so do prism glasses—bed specs—which help patients who are unable to raise their head by bending the image on the page 90 degrees. The words and pictures reflect on the glasses. Books printed in large type are also stocked.



Here's a case where intravenous tubes and a bandaged eye do not interfere with enjoying a good book via a recording. The talking books are provided by the Division for the Blind and Physically Handicapped of the Library of Congress. The Montgomery County Public Library system also supplies books to the Patient Library.



A patient who cannot use her hands is helped by a book-holder and automatic page turner. She is turning the pages by pressing the button with her chin. A plastic adhesive enables the metal arm of the device to pick up the pages; a wire at the bottom holds the page in place after turning.

The Patient's Library is located in a side corridor on the seventh floor of the Clinical Center. It is a quiet oasis away from the action of both the research laboratories and the nursing units.

But that is not to say it isn't busy. The taking out and returning of books—more

than 5,000—70 periodicals, and 3 daily newspapers, are handled efficiently by volunteers and the staff of the Patient Activity Section under Lois Swim, supervisory librarian, assisted by Renae Patrick, library technician, and Nan Hutchison, PAS, whose duties

include helping in the library part of the work-week.

When the patients are unable to go to the library—the library comes to them. A bookcart trundled by Red Cross volunteers, and piled high with books and maga-

zines to tempt every literary taste—from hammock fiction to think pieces—is brought to their rooms. That is only one of the several services provided by the library to pleasantly while away the hours spent at the CC.