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the

Record

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PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NLM Dedicated; Speakers Include Hill and Ribicoff

The new National Library of Medicine Building, situated on its landscaped 11-acre site at the southeastern corner of the NIH reservation, was dedicated at ceremonies held last Thursday and Friday.

The two-day program, beginning at 3 p.m. Thursday and continuing at 10 o'clock the next morning, included an impressive array of speakers and participants.

Kennedy Coauthors Legislation

Principal speakers at the opening ceremonies were Senator Lister Hill of Alabama and Abraham Ribicoff, Secretary of Health, Education, and Welfare.

Senator Hill, who delivered the dedication address, was co-author with the then Senator John F. Kennedy, of the National Library of Medicine Act of 1956, which authorized construction of the new building.

Dr. Worth B. Daniels, Clinical Professor of Medicine at George-
(See DEDICATION, Page 5)

NHI Exhibit Wins APHA Award for Third Year

For the third year in a row the National Heart Institute has received a Certificate of Merit "in recognition of the excellence of its exhibit" at the Annual Meeting of the American Public Health Association. This year's award-winning exhibit is titled "Framingham Heart Study."

The scientific exhibit was one of nine selected from nearly 100 on display at the recent meeting in Detroit. It details the results of a 12-year study of 5,200 residents of Framingham, Mass., and shows those factors established by the study as strongly associated with the development of coronary heart disease. The exhibit also depicts a rapid procedure for performing electrocardiograms.

Dr. Thomas R. Dawber, Medical Director of the Framingham study, accepted the certificate on behalf of the NHI.

Many and Varied Festivities Brighten Christmas at NIH

It's looking a lot like Christmas at NIH. Trees in the Clinical Center lobby and solaria, greens on the front of the building, and door wreaths provided by the NIH Recreation and Welfare Association lend a festive atmosphere.

The familiar Nativity scene will appear again on Center Drive, and the 25-foot spruce tree growing between the A and B wings of Building 31 is to be brightly decorated for the first time.

Begins Tomorrow

Holiday activities for the CC patients begin with a Christmas program tomorrow evening (December 20) in the 14th floor assembly hall. A wide range of festivities will follow, ending with a New Year's Eve dance and entertainment on New Year's Day.

Following greetings from Dr. C. K. Himmelsbach, CC Associate Director, and invocation by Father Francis Veith, Catholic Chaplain, the opening program will include music selections by the Bethesda Methodist Church choir under the direction of Wilmer Bartholomew, and entertainment by the American Guild of Variety Artists. Rev. William R. Andrew, Protestant Chaplain, will give the benediction.

Gifts from Santa

On Thursday two programs are scheduled. In the afternoon, Santa Claus will present gifts and favors to all children on the nursing units. Arrangements for his visit were made through Hugh Yarrington, manager of the Hecht Company's Silver Spring store.

That evening in the 14th floor assembly hall, the U. S. Air Force

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Leon T. Fahrenthold, a Clinical Center patient from Cleveland, Ohio, outlines the figure of a snowman to be used in decorating one of the CC recreation areas for the holiday season. Most of the colorful decorations hanging in the nursing units and solaria were made by CC patients weeks in advance.—Photos by N. MacVicar.

R&W Welcomes Visitors To New Bldg. 31 Office

The Recreation and Welfare Association of NIH has moved from its former office in the Clinical Center to Room 1A18, Building 31. Laurence E. Ring, R&W General Manager, invites all NIH employees to inspect the new office and become acquainted with the advantages of belonging to the Association.

Rollin Hotchkiss Is Dyer Lecturer Here Jan. 10

Dr. Rollin D. Hotchkiss, Professor at the Rockefeller Institute, will deliver the R. E. Dyer Lecture on Wednesday, January 10, at 8:15 p.m. in the Clinical Center auditorium. He will speak on "Messages in Macromolecules."



Dr. Hotchkiss

Dr. Hotchkiss said that he will discuss the following: "The natural organic macromolecules such as the proteins and nucleic acids are highly specific in chemical configuration. The signs that large molecules of nucleic acids can imprint, directly or indirectly, whole groups of specificities upon other molecules make them of interest to biologists concerned with genetics and development."

"There are satisfying evidences that certain points in the micro-structure of nucleic acids influence specific points in the primary peptide structure of certain proteins."

"Prevailing doctrines urge that all sites of related influence are side-by-side in the nucleic acids, in an arrangement colinear with the sites they influence in the polypeptide chains of proteins."

"The genetic chemist must still responsibly ask whether this extrapolation is valid, and whether

(See HOTCHKISS, Page 5)

Yule and New Year Issues Are Combined in This One

Continuing the custom inaugurated last year, the Record in this 8-page pre-Christmas issue combines the 4-page year-end and early New Year (Jan. 2) issues. Date of the next issue, therefore, is January 16. To each of our 9,200 readers, a Merry Christmas and a Happy New Year!

the NIH Record

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Editor E. K. Stabler

Staff Correspondents

Norma Golumbic, NCI; Barbara Becker, NHI; Kathryn Mains, NIAID; Mary Henley, NIAMD; Marie Norris, NIDR; Lillie Bailey, NIMH; Pat MacPherson, NINDB; Elsie Fahrendold, CC; Marie Farrell, DBS; Corinne Graves, DGMS; Dick Turlington, DRG; Jean Torgerson, DRS.

PERSONNEL' TO PERSON

HEALTH BENEFITS

THE Employee Relations and Services Section has received a number of inquiries regarding issuance of identification cards to employees who enrolled or changed enrollment during the Health Benefits Open Season.

The sponsoring carriers advise that employees can expect their ID cards by the end of December.

If medical attention is required prior to receipt of the card, employees may check with their Health Benefits carrier to verify Plan enrollment.

* * *

The American Federation of Government Employees advises that enrollees in their plan will receive "claim kits" for maintaining records of medical expenses required for filing claims.

The kits will be mailed directly to the enrolled employees.

PERSONNEL FOLDERS

Official personnel folders are continuously being reviewed by operating officials and members of the Personnel Management Branch to determine which employees could be considered best qualified for reassessments or promotions.

These determinations can be accurate only if each employee's file contains information which fully describes his experience and education.

Every employee should, therefore, keep his record up to date. This may be accomplished by submitting a current Standard Form 57 or 58 to your Personnel Operations Officer whenever a change in assignment has occurred or additional education has been acquired.

The information submitted could prove to be a deciding factor when selections are made.

300 Officers Expected For April Meeting of PHS Clinical Society

More than 300 PHS officers are expected to attend the annual meeting of the United States Public Health Service Clinical Society to be held here next April 4-7.

The program of the meeting will consist of lectures, panel discussions and the presentation of papers on clinical and laboratory research studies, including many from NIH officers.

Chairs Committee

Dr. Edward J. Driscoll of the Clinical Investigations Branch, National Institute of Dental Research, is the Society's Vice President and Chairman of the Planning Committee for the meeting.

Chairman of the Scientific Committee is Dr. Alfred S. Ketcham of the Surgery Branch, National Cancer Institute.

Other members of the Planning Committee are Dr. Clifton K. Himmelsbach, Associate Director, Clinical Center; Dr. Stuart M. Sessions, Associate Director for Collaborative Research, NCI; Dr. Robert M. Farrier, Assistant Director (Professional Services Department), CC; and Dorothy Horlander, Chief of the Special Events Section, CC.

Serves as Stimulus

Founded in 1947, the Society represents all PHS units involved in clinical activities. It has served, Dr. Driscoll said, as a stimulus to the presentation of articles of clinical interest at its local monthly meetings and the annual meeting held at the various PHS installations.

The meeting in April will be the third to be held at NIH.

Dr. Driscoll urges that NIH-PHS officers planning to present papers at the meeting submit their abstracts not later than February 1 to the Program Committee, Rm. 10N226, Clinical Center.

CC Pharmacy Is Vital Support To Medical Research at NIH

By John M. Blamphion

The "corner pharmacy" at NIH doesn't sell newspapers or shaving cream, nor does it have a soda fountain. Its patrons, however, can select from a complete line of commercially available drugs, radio-pharmaceuticals, investigational drugs, rubber gloves, syringes, catheters, band-aids, aspirin, and sterile instrument trays prepared for specific treatment and diagnostic procedures.

The Pharmacy Department of the Clinical Center, under the direction of Milton W. Skolaut, Chief, provides these and many

rate, each would need its own purchasing personnel and salesmen contact.

The CC Pharmacy performs many special services not available from the pharmacy in most general hospitals, Mr. Skolaut said.

Drug containers sent to the wards are clearly labeled with average dosage information. This means that the nurses not only get the name of the drug in easy-to-read letters but the average dosage as well.

Provides Unusual Items

Sterile Supply Service, headed by Donald H. Hare, provides special packaging for sterile items such as cardiac catheters, an item not used in many general hospitals.

Many of the research clinicians want things "custom made." For instance, an NIH investigator with a particular type of injection in mind may want a needle with a bevel angle that is not available from a commercial manufacturer. The CC Pharmacy will adapt the needle for his purposes.

Eighty percent of the drugs available to physicians today were unknown 10 years ago, according to Mr. Skolaut. Unless a pharmacist has graduated within the last two or three years from pharmacy school, he probably is not

(See PHARMACY, Page 6)



William H. Briner, Chief of the Radiopharmacology Service, transfers a sterile radioisotope diagnostic material into individual dosage containers under aseptic conditions. Note the quarter-inch thick lead shield that protects his hand from the radioactive material in the syringe.

special services to physicians and clinicians at NIH.

Its Pharmacy Service and Pharmaceutical Development Service are on the first floor of the CC, around the corner from the lobby. The Radiopharmaceutical Service is on the second floor, and the Central Sterile Supply Service is on the first basement level.

Combines Function

In most hospitals today, according to Mr. Skolaut, there is much overlap in responsibility between pharmacy services and sterile supply services. For instance, the Sterile Supply Service dispenses many of the drugs that the Pharmacy packages, and it provides the needles, syringes and sets through which many drugs are administered.

The Clinical Center has combined the functions of the services into one unit, insuring complete cooperation and efficient use of manpower and materials. It is one of a small number of hospitals in the United States to do so.

Combining the two even saves on personnel. If they were sepa-



Ray Crossley, Acting Chief of the Pharmaceutical Development Service, performs a sterile filtration on an investigational injection product. Before the drug is released for patient use in individual dosage containers, it will be quarantined for 10 days, while sterile tests are performed on random samples placed in the test tubes seen in the foreground.

NIAMD Studies Contradict Theory Of Gout Cause

A gout-like response to injected sodium urate crystals in volunteer gout patients has been produced by scientists of the National Institute of Arthritis and Metabolic Diseases. Their findings are in sharp contrast to the accepted belief that urate salts are inert substances and have little or nothing to do with the acute painful attacks of this ancient debilitating disease.

Drs. R. Rodney Howell and J. E. Seegmiller of NIAMD's Arthritis and Rheumatism Branch have found that injections of needle-shaped microscopic sodium urate crystals will produce an inflammatory reaction when injected into the joints of gout patients.

Reactions Described

The reactions, which were produced in volunteer patients, were similar to those found in attacks of acute gouty arthritis. They were characterized by pain, warmth, tenderness, redness, fluid accumulation and leukocytic (white cell) response in joint fluid. Inflammation was not produced, however, by injections of either sodium urate solution or a suspension of amorphous sodium urate.

The work of the NIAMD scientists holds promise for discovery of a long sought after link between the two main features of gout: the painful, recurring attacks which are the first indication that a patient has gout, and the inherited defect in body chemistry which leads to an accumulation of uric acid within the body.

Produces Inflammation

In addition to injecting the crystals into volunteer gout patients, the Institute scientists also injected them into the skin of normal people. Here too, they produced inflammatory reactions. In related studies in animals, preliminary results indicate that the injected needle-shaped crystals can bring about attacks of acute gout-like arthritis in normal joints.

From these observations, the NIAMD scientists concluded that certain forms of crystalline sodium urate may be directly involved in the cause of some aspects of acute gouty arthritis. This concept is in sharp contrast to the accepted belief that urate salts are inert substances and have little or nothing to do with the acute painful attacks of gout.

The work was reported at the Eighth Interim Scientific Session of the American Rheumatism Association

XMAS ARTISTS



Mrs. Loretta M. Repas (left), a patient from Sharon, Pa., and Miss Gloria Wyatt, a patient from Princeton, Ky., are sketching figures for cutouts. The jaunty snowman was made by a patient last year from newspapers, wire and plaster of Paris.

CHRISTMAS

(Continued from Page 1)

Singing Sergeants will give a Christmas concert for patients and their guests.

For the first time a gala open house for all patients and their guests is scheduled for Friday in lieu of individual parties in the solaria. Hostesses for this occasion, the Montgomery-Blair O'Debs under the student chairmanship of Sandy Schubert, will provide refreshments and entertainment. And Santa Claus will distribute gifts from a stocking six feet high, provided by the First Continental Savings and Loan Association of Bethesda. Also on Friday, choirs from seven churches in the area will sing carols on all nursing units.

Carolers to Sing

A party especially for pediatric patients on Saturday afternoon will feature another visit by Santa Claus with gifts for all. This event is sponsored by the Clifton Park Citizens Association, with R. O. Scibilia as chairman.

In addition to the regularly scheduled Christmas services in the CC Chapel on Christmas Eve, a caroling group from St. Jane Frances de Chantal parish of Bethesda will visit all the nursing units.

The U. S. Navy Band will provide music and entertainment for the patients' New Year's Eve dance, and the Singing Capital Chorus, D. C. Chapter of the SPEBSQSA, Inc., will celebrate with the patients and their guests on New Year's Day. NIH employees are invited to this event which will be in the 14th floor assembly hall at 8 p.m.

Blood Tests Aid in Diagnosis Of Rheumatoid Arthritis

Blood testing methods for rheumatoid arthritis supply not only information which can aid in the diagnosis of the disease, but also indicate what course the disease may follow in future years.

Evidence was presented to the Eighth Interim Scientific Session of the American Rheumatism Association that blood tests for the rheumatoid factor, a protein substance found in a high percentage of people who have rheumatoid arthritis, can give the physician an outlook on the disease which can aid him in determining the chances of remission and in selecting the best form of treatment.

Follow-Up Made

Findings of Prof. J. H. Kellgren of the Rheumatism Research Centre, Manchester Royal Infirmary, Manchester, England, and Dr. William M. O'Brien of the National Institute of Arthritis and Metabolic Diseases, indicated that presence of the factor is associated with higher mortality, internal organ and tissue destruction, and severe bone damage and crippling. In contrast, patients in whom the factor could not be found showed higher remission rates and few of the more serious manifestations associated with the disease.

The Kellgren-O'Brien paper covered a follow-up study done on 62 patients first examined in England's Manchester Royal Infirmary in 1950-51 shortly after introduction of the sheep cell agglutination testing method for the rheumatoid factor. Several more sensitive testing methods have been introduced since then. Sixty of the patients given careful clinical and X-ray examinations in 1950-51 were reexamined in 1960-61.

Of the 40 patients in the positive sheep cell agglutination (SCAT) group, 11 died. Of 20 in the negative group, only three died. Death

in at least six of the SCAT-positive patients was definitely related to rheumatoid arthritis. Only in one instance did corticosteroid drugs contribute to death. Many of the complications often attributed to corticosteroids were found in the non-steroid treated patients.

In addition to increased mortality, SCAT-positive patients had increased incidence of internal organ or tissue disease. Only two of 20 SCAT-negative patients had such lesions, while disease was seen in 17 of 40 positive patients.

X-ray studies also revealed striking differences. Severe bone erosions occurred mainly in the SCAT-positive group. Only three of 28 SCAT-positives escaped high levels of bone damage, while 10 of 17 SCAT-negative patients had no or little damage. Healed bone erosions were also less frequent in the positive group.

Results Summarized

These patients received essentially no long-term therapy, and no controlled drug trials were done. In general, the SCAT-negative group responded well to the more conservative therapies—bed rest, physiotherapy, aspirin, gold, etc., while those in the positive group often failed to respond to any measure other than corticosteroids. Eight severely ill SCAT-positive patients did receive steroid therapy for five or more years: four showed improvement; two continued to do poorly; one died of visceral disease; and one died in a state of adrenal insufficiency.

The scientists concluded that rheumatoid arthritis with positive SCAT reaction is associated with increased mortality, increased internal organ and tissue destruction, and severe bone damage and crippling. In SCAT-negative rheumatoid arthritis they found no increased mortality, a high incidence of remission, few internal lesions, little bone damage, and the frequent development of secondary osteoarthritis.

Dr. Bunim Participates In Writers Seminar

Dr. Joseph J. Bunim, Clinical Director, National Institute of Arthritis and Metabolic Diseases, participated in a panel on "Epidemiology of Rheumatoid Arthritis and Related Diseases" during the concluding session of a 2-day science writers seminar on arthritis December 6, at the Johns Hopkins Hospital auditorium in Baltimore.

Planned as a background workshop on arthritis, the seminar was sponsored by the National Foundation in cooperation with the Johns Hopkins medical institutions.



A CC patient (Mrs. Repas) puts the finishing touches on a reindeer to be used as a Christmas decoration.

Gorman Appointment Recalls Crusade Against Mental Illness in U.S.

In its recent announcement of the appointment of Mike Gorman as a member of the National Advisory Mental Health Council, the National Institute of Mental Health calls attention to this distinguished journalist's crusading career against mental illness.

While a reporter on the Daily Oklahoman in 1945, Mr. Gorman wrote a series of articles on mental hospitals in Oklahoma, launching a 5-year, state-wide campaign in behalf of mental health.

During that time he wrote more than 400 news stories, 60 editorials, various pamphlets and a book, *Oklahoma Attacks Its Snake Pits*, which appeared in condensed form in the Reader's Digest in 1948.

Wins Lasker Award

In that same year he became the first newspaperman in the country to receive the Lasker Foundation Award, presented by the National Committee for Mental Hygiene for his distinguished newspaper reporting in the field of medicine.

The following year his work in the field of mental health was recognized by the U.S. Junior Chamber of Commerce which named him as one of the Nation's 10 outstanding young men.

In 1952 he served as Director and chief writer for the President's Commission on Health Needs of the Nation, and since 1953 has served as Executive Director of the National Committee Against Mental Illness, formerly the National Mental Health Committee.

In 1956 his book, *Every Other Bed*, focused attention on the need for more support for research in the causes, treatment, and prevention of mental disease.

NIDR Group Gets Award For Dedication Planning

A superior performance award was presented recently to an NIDR group headed by Information Officer Robert R. Hurt for its role in the planning and dedication of the new dental research laboratories last May.

Dr. Francis A. Arnold, Jr., Institute Director, in presenting the award, cited the group for individual and collective efforts in conceiving and carrying out the dedication program in a highly efficient manner.

Other recipients were Robert B. Callahan, Assistant Information Officer; Marie T. Norris, Information Specialist; Gerry M. Walsh, Secretary; and Edna G. Ketchum, Secretary to Dr. Arnold.

QUEEN LISA



Lisa Ruedi, who worked at NIH last summer in the Extramural Programs Branch, NIAID, is pictured at her recent coronation as Homecoming Queen at Washington College, Chestertown, Md. Lisa's mother, Lydia E. Ruedi, is an NIH employee, in the Research Documentation Office of DRG.

HOTCHKISS

(Continued from Page 1)

the conformation of coils or folds of the macromolecules are important as well as the primary configuration of their nucleotide or peptide chains."

Dr. Hotchkiss has been associated with the Rockefeller Institute and the Rockefeller Foundation since the beginning of his professional career in 1935. He is a member of the Scientific Advisory Board of the Roswell Park Memorial Institute, Buffalo, N.Y.; and the Scientific Advisory Committee of the Institute for Cancer Research, Philadelphia, Pa.

Consultant to NIAID

He is also on the Advisory Panel of the National Science Foundation and is a Special Consultant to the National Institute of Allergy and Infectious Diseases.

In 1953 he won the Commercial Solvents Award of the Society of American Bacteriologists for his research in antibiotics, and in 1954 was the Jessup Lecturer at Columbia University.

He was also Visiting Professor of Biology at the Massachusetts Institute of Technology in 1958.

The R. E. Dyer Lecture was established in 1951 in honor of Dr.

Isolated New Guineans May Yield Clues To Goiter, Mental Deficiency Causes

A primitive New Guinea community where virtually all births produce mentally damaged infants and where goiters the size of footballs are seen, promises to provide medical science with crucial clues regarding the underlying causes of and associations between these debilitating afflictions.

The National Institute of Neurological Diseases and Blindness has begun a many-faceted study of this stone age population, hoping to reveal these clues.

Dr. D. Carlton Gajdusek, who heads the NINDB study, reports that these people, isolated from their neighbors in the interior highlands of Netherlands New Guinea, had no contact with the civilized world until three years ago.

Many Affected

The NINDB scientist estimates that perhaps all of the 2,000 to 3,000 inhabitants of this region, the Mulia region, suffer from varying degrees of inborn nervous system defects, ranging from simple mental retardation to serious crippling disorders.

Clearly evident are the effects of mental retardation and neuromuscular diseases in large numbers of infants. In addition, about one-fourth of the males and two-thirds of the females have goiters, and in some villages of the region all of the women are so afflicted.

In all goiter regions of the world the enlargement of the thyroid gland is said by scientists to be caused by a failure of the gland to obtain a supply of iodine which is necessary for the production of an adequate amount of hormone. In the absence of sufficient iodine, the thyroid gland often undergoes drastic enlargement in an attempt to produce the hormones.

Iodine Not Deficient

Preliminary studies of the water and soil of the Mulia region, however, do not reveal any remarkable deficiency of iodine. Dr. Gajdusek explains that even if enough iodine is available in the diet, other factors may prevent the thyroid gland from using the iodine present. These may be a variety of biochemical defects or the presence of toxic substances in the diet which prevent the incorporation of the iodine into the hormone-producing mechanism of the gland.

Heredity factors, as well as environmental, are strongly suspected by Dr. Gajdusek because of

the small number and extreme isolation of the natives he studied. Such conditions result in considerable inbreeding which in turn often brings to light hereditary defects that would normally be masked. In the Mulia region, family patterns of occurrence of goiter and central nervous defects strongly indicate genetic influences, the NINDB scientist says.

The poor soil is a primary environmental factor. Dr. Gajdusek noted that sweet potatoes grown in the Mulia region are of a quality unfit for human consumption in other parts of the highlands.

The Mulia situation is also unique in that the potato greens have become a major staple of the diet, supplemented by the scrawny potatoes of markedly inferior quality. He is investigating the possibility of this unusual staple food in an already nutritionally poor community may play a critical role in the cause of goiter and the resulting disorders.

Dr. Lutwak Addresses Symposium on Bone

Speaking on "Metabolism of Bone in Paget's Disease," Dr. Leo L. Lutwak of the Metabolic Diseases Branch, National Institute of Arthritis and Metabolic Diseases, addressed the International Symposium on Bone held recently in San Francisco. The symposium was sponsored by the San Francisco Medical Center of the University of California and its Continuing Education in Medicine and the Health Sciences program.

Dr. Lutwak reported the results of studies of metabolic balance and calcium⁴⁵ distribution in several patients with osteitis deformans (Paget's disease) made under differing dietary calcium intakes and under corticosteroid or androgen therapy.

Research Advances Cited

The symposium focused attention on the clinical application of recent advances in research on bone and the changing concepts of the metabolism of bone and teeth in health and disease. It included a discussion of various points of view on controversial subjects such as the cause of and treatment for osteoporosis.

Dr. Lutwak also participated in this discussion, presenting a paper on "Relations of Calcium and Phosphorus Balance to Changes in Bone," which described isotope and metabolic balance data obtained in studies of patients with demineralizing bone disease such as osteoporosis.

Rolla E. Dyer, who served as Director of NIH from 1942 to 1950 and played a major role in directing the postwar expansion of the institution.

DEDICATION

(Continued from Page 1)

town University and Chairman of the Board of Regents of the National Library of Medicine, presided during the Thursday afternoon program, in which Alexis S. Liatis, Ambassador of the Government of Greece, also participated.

He presented the Library with a cutting from a famous Oriental plane tree on the Island of Cos, under which Hippocrates is reported to have taught his pupils. The cutting is to be planted on the Library grounds.

The new building, which cost approximately \$7 million, will house the world's greatest collection of medical literature, with space for about a million and a quarter bound volumes. Its dedication marked the near-end of the Library's 125th anniversary year.

Roof Is Distinctive

Three of the building's five floors are below ground level. One of its many distinctive features is its pagoda-like "roof" which is technically described as a four-quadrant hyperbolic paraboloid shell, said to be one of the largest ever constructed and the only one of its kind in this section of the country. (See *NIH Record* of August 16, 1961.)

The building was designed by the architectural firm of O'Connor and Kilham of New York City and constructed by the Arthur Venneri Co. of Westfield, N.J.

Occupancy of the new building is scheduled to begin in the spring of 1962, when the Library's collections will be transferred from the structure it has occupied in

New Publication Summarizes Programs Supported by NIH for FY '59 and '60

The publication of a new booklet summarizing all the medical support programs administered by the National Institutes of Health during Fiscal Years 1959 and 1960 was announced recently by the Public Health Service.

In response to numerous requests for such information, the booklet itemizes funds of more than a half billion dollars that reflect NIH support in strengthening research in medical schools, universities, and hospitals; in developing research manpower in the medical and biological sciences; and in stimulating research in previously neglected areas of medical interest.

Summary tables provide detailed breakdowns by type of award, sponsoring NIH program, and State and recipient institutions. Analysis tables give comparative data on the distribution of the awards.

NLM IS FRAMED BETWEEN TREES



The long, low facade of the PHS National Library of Medicine Building, situated on the southeast corner of the NIH reservation, is revealed in this picture taken a few days before the dedication.—Photo by Sam Silverman.

Washington—at Seventh St. and Independence Ave., S.W.—since 1887. The historical and rare book collections, at present housed in rented space in Cleveland, Ohio, will also be transferred at that time.

The Friday portion of the dedication program included the following speakers and topics:

"The Military Tradition of the National Library of Medicine," by Maj. Gen. Joseph H. McNinch, Chief Surgeon, U.S. Army, Europe.

"Medical Librarianship in the United States," by Gertrude L. Annan, President of the Medical

Library Association.

"The Building Arts in the Service of Librarianship," by Dr. Carl W. Condit, Professor of Humanities and English, Northwestern University.

"History, Science, and Librarianship," by Dr. Chauncey D. Leake, President of the American Association for the History of Medicine.

"Physicians and Books," by Dr. William B. Bean, Professor of Medicine, University of Iowa.

Chairman of the Friday program was Dr. Frank B. Rogers, Director of the National Library of Medicine.

Jim Davis Named R&W President; By-Laws Changed

James B. Davis, Chief of the Supply Management Branch, OD, was elected President of the Recreation and Welfare Association of NIH at its annual meeting December 1 in Wilson Hall. He succeeds Dr. Harold P. Morris, NCI, who served as President in 1961.

Other officers elected for the coming year are Dr. Walter Newton, Chief of the Laboratory of Germfree Animal Research, NIAID, First Vice President; Jeni Arliiss, Administrative Officer, NINDB, Second Vice President; Irene D. Skinner, Administrative Services Head, OD, Secretary; and John H. Reeder, Administrative Assistant (Research) NHI, Treasurer.

The newly elected officers comprised the slate of nominees presented to the members of the Association by the Nominating Committee composed of Richard H. Henschel, NHI, Chairman; Dr. Gordon H. Seger, DRG; Calvin B. Baldwin, Jr., DGMS; Inez Demonet, DRS; and John Roatch, CC.

Dr. Morris Presides

Dr. Morris presided at the meeting and presented the annual report.

The members voted approval of a new Article II and eight amendments to the Association's by-laws, including an amendment to Article XI which provides that election of officers shall be by mail ballot not more than 15 days following the annual meeting.

Laurence E. Ring, R&W General Manager, reported receipts of \$32,779.62 for the 12-month period ending October 31, 1961, and disbursements of \$31,029.32, resulting in a net profit to the Association of \$1,750.30. A total of \$7,359.81 was transferred to patients' welfare use.

Several members won door prizes of cameras, candy, and cartons of cigarettes.

ship program.

The principal reason given by approximately 64 percent of the group was that they obtained support from other sources. Most of the 327 merely withdrew their applications; however, 68 cancelled.

The largest other source of support, with over 22 percent of the total, was the National Science Foundation. Other applicants were supported by over 40 different organizations, including universities, private foundations, research institutes and other government agencies.

Fellowship Withdrawals Show Slight Drop in '61

In Fiscal Year 1961, 327 or about 8.5 percent of the 3,845 applicants for predoctoral, postdoctoral, and special fellowships either withdrew their applications or cancelled their awards, according to a recent DRG survey.

The 1961 overall figures show a slightly lower proportion of withdrawals and cancellations than in FY 1960. The percentage for that year was 10.1 percent.

However, 1961 showed a higher proportion of withdrawals and cancellations for postdoctoral and special fellowships than the 1960 figures. In both years, over half of these were postdoctorals.

The survey was conducted by the Analysis and Evaluation Section, Career Development Review Branch, Division of Research Grants. Its purpose is to explore in detail the reasons for withdrawal of applications and cancellation of awards in the fellow-

With the aid of FSJC contributions, some 25,000 of the poorest children of the Lucknow district of India are receiving a daily meal of milk and a freshly baked bun. For many of these youngsters this is the only substantial meal of the day. Your continued CARE support through FSJC makes similar mass feeding programs possible wherever the need exists.

PHARMACY

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familiar with radiopharmaceuticals. He may not even learn about their use in patient diagnostic and treatment procedures.

Yet radiopharmaceuticals are becoming more important in patient therapy, and new techniques for preparation, handling, and packaging must be developed.

The Pharmacy's Radiopharmaceutical Service, headed by William H. Briner, makes up these drugs on special order for NIH clinicians. It also experiments with new ways of preparation and storage and generally tries to improve the quality and usefulness of the drug.

In a year the CC Pharmacy dispenses about four million units of issue in drugs and sterile items. About 280,000 of this number are drug items and the balance are from the Sterile Supply Service.

Aspirin No. 1 Item

A pharmacy unit is, for example, a bottle of pills or an ampule. A needle, a sterile dressing, or a catheter is an example of a sterile supply unit.

Still, the most sought-after item in the Pharmacy is aspirin. In a year it dispenses about 537,000 aspirin and buffered aspirin tablets.

The Pharmacy workload increased eight percent over last year, but the staff and patient-load remained constant—an indication of the increased patient use of pharmaceuticals in clinical practice.

Besides the regular drugs available to physicians, the Pharmacy stores and dispenses about 100 different investigational drugs for doctors in the Clinical Center.

Prescriptions Microfilmed

Many of these drugs are prepared and packaged by outside drug manufacturers but not yet licensed. However, many new compounds are prepared into a suitable human dosage form for the first time by the Pharmaceutical Development Service. Such drugs have passed the animal-testing and are being used in humans under closely observed and controlled conditions.

Prescriptions for all drugs are microfilmed by the Pharmacy and kept indefinitely. A drawer of prescriptions two feet long can be microfilmed and kept in a container no larger than a wooden match box.

Sterile Supply Service not only insures proper sterilization of hundreds of different items, it even arranges them on trays or in packages for highly specialized procedures such as liver biopsies and lumbar punctures.

The fact that the Clinical Cen-

A TRAVEL TIP



A suggestion that DRG travelers take advantage of special discount rates offered to Federal agencies by two car-rental services wins a Beneficial Suggestion Award for Clara Goldstein, a passenger traffic clerk in the Travel Section, NCI. Mrs. Goldstein, pictured here receiving the award from Dr. Richard R. Wiley, DRG Deputy Director, made the suggestion while on the staff of the Travel Section, Internal Operations Branch, DRG. The suggestion is being considered for DHEW-wide use.

Miller, Hemphill Elected APHA Section Chairmen

Two NIH scientists were elected section chairmen of the American Public Health Association at its recent annual meeting in Detroit.

They are Dr. Alan D. Miller, Special Assistant for Field Operations, Extramural Programs, NIMH, elected Chairman of the Association's Mental Health Section, and Dr. F. M. Hemphill, Assistant Chief, DRG, elected Chairman of the Statistics Section.

Dr. Miller has been at NIMH since June of this year. Prior to his present position he was USPHS Mental Health Consultant in Psychiatry at Region 8 in Denver.

Dr. Hemphill joined DRG in 1959 and has been Assistant Chief since April of last year. Prior to his Government service he was Professor of Public Health Statistics at the School of Public Health, University of Michigan.

ter is part of one of the finest research centers in the world causes some to believe that it therefore makes all its own drugs and doesn't bother with the drug manufacturers.

Quite the contrary. The Pharmacy believes that it is better to buy drugs and sterile items when they are commercially available in a suitable form. It is more economical, too. This way, the staff is available to make those drugs and supplies which are not available from other sources.

Public Assistance Post Accepted by CAR Head

Dr. Joseph H. Gerber, Director of the Center for Aging Research, DGMS, has accepted appointment as Chief of the Medical Assistance Standards Branch, Division of Medical Care Standards, Bureau of Public Assistance, DHEW.

The Division of Medical Care Standards was established following the 1960 session of Congress as one of the steps taken to carry out the Kerr-Mills provision for increased Federal participation in the States' medical care programs for needy aged persons.

Dr. Gerber, a commissioned officer, has been Director of the Center for Aging Research since July 1960. Previously he was Medical Officer in Charge of the Indian Health Area Office, Aberdeen, S. Dak. His Washington assignments included service in the Chronic Disease Division; the Division of Civilian Health Requirements; the Office of Vocational Rehabilitation, where he served as Chief Medical Officer; and the Division of Special Health Services.

Before becoming a commissioned officer, Dr. Gerber was Assistant Director of Peter Bent Brigham Hospital in Boston and Assistant Medical Director of the Health Insurance Plan of Greater New York.

Handling Care Advised For Office Machines

Supply Management Branch, DRS, calls attention of employees to the need for care in handling and using expensive office machines, pointing out that employees may be held financially responsible for damage to Federal property caused by negligence.

SMB cites as an example a recent case in which a costly calculator fell to the floor while being wheeled down a corridor on a light stand.

Repairs to the machine cost \$197.05, according to SMB, in addition to the loss of its use for one month and valuable time spent in explaining the accident to a Board of Survey.

To reduce the possibility of damage to office machines, SMB suggests that:

- Stands adequate to the size and weight of the machine be provided.
- Machines be bolted to stands when possible.
- The transportation of office machines on light stands or chairs be avoided.

Additional information on the care of office machines may be obtained from the Central Repair Service, Ext. 4615.

NIAID Lab Experiment To Facilitate Study of Egyptian Splenomegaly

An experiment performed in the Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Diseases, is expected to greatly facilitate laboratory study of one of the most dangerous complications of schistosomiasis, a parasitic disease suffered by approximately 150 million people in various parts of the world.

A report on the experiment was presented at the recent Annual Meeting of the American Society of Tropical Medicine and Hygiene by an NIAID scientist, Dr. Kenneth S. Warren.

Name Is Colorful

Dr. Warren said that the complication of infection with *Schistosoma mansoni* (one of the worm parasites causing schistosomiasis) has received the colorful appellation, Egyptian splenomegaly. The spleen is so grossly enlarged in this disease that for many years it drew attention away from the liver which is the primary seat of the disease. Severe hepatic fibrosis impedes blood flow from the spleen and so-called congestive splenomegaly occurs.

In spite of much human and animal experimentation, the exact way in which the worm *S. mansoni* causes this disease has remained in doubt. Recently a syndrome in mice resembling Egyptian splenomegaly in humans has been reported by LPD, and studies on the etiology of this syndrome have therefore been facilitated.

Mice Are Infected

Previous experimentation in mice had utilized fairly heavy worm infections, comparable to approximately 70,000 worms per adult human. The purpose of the NIAID study was to determine whether smaller worm burdens would also produce Egyptian splenomegaly in mice. Accordingly, mice were infected with 161, 112, 73, and 28 cercariae of a Puerto Rican strain of *S. mansoni*.

The results revealed that mice can develop this syndrome with as few as one of two pairs of worms per mouse. Furthermore, the development of Egyptian splenomegaly is greatly delayed in these animals, beginning at 20-25 weeks rather than at 10 weeks as occurs in mice with greater worm burdens.

These studies, Dr. Warren said, add confirmation to the belief that experiments in this animal model may be of value in understanding of the human disease.

Dr. Willard H. Eyestone Elected President of Veterinary Pathologists

Dr. Willard H. Eyestone, Assistant Chief for Primate and Veterinary Grant Programs of the National Heart Institute, was elected President of the American College of Veterinary Pathologists at the ACVP's Annual Meeting at the University of Chicago, November 25.

The ACVP has a membership of 115. These include veterinary pathologists in private practice, meat inspection pathologists, heads and members of general and special diagnostic laboratories, teachers, research workers, and officers of the Veterinary Corps of the Armed Forces.

The College was established in 1949 to encourage veterinarians to enter and acquire specialized training in the field of veterinary pathology: 1) by establishing standards of training and experience leading to the qualification of specialists in this field, and 2) by suitable certification of such specialists following extensive oral and written examinations.

Performs Vital Role

"By enhancing the teaching, research, and practice of veterinary pathology," Dr. Eyestone commented, "the College is performing a vital role in veterinary medicine and in other biomedical sciences as well."

Dr. Eyestone will serve as President of the ACVP for a term of one year. He was certified by the ACVP Examination Board in 1954 and subsequently served as a councilor on this board. Last year he held the office of Vice-President of this organization.

Dr. Eyestone received his B.S. and D.V.M. degrees from Kansas State College, his M.P.H. from Harvard University, and his Ph.D. (in pathology) from the University of Wisconsin.

Since coming to NIH in 1949 Dr. Eyestone has filled a number of positions and assignments: veterinarian (pathology), NCI; Head of the NCI and DRS Comparative Pathology Section; Consultant Pathologist to the National Zoological Park; International Consultant for the Pan American Sanitary Bureau in Ecuador (1952) and Brazil (1955); Chief of the DRS Laboratory Aids Branch; and member of the National Advisory Council for Rhesus Monkey Procurement, and the Primate Research Study Section.



Dr. Eyestone

NIH Research, Building Grants for FY 1961 Exceed \$311 Million

The annual Public Health Service summary of research and construction grants awarded by NIH during Fiscal Year 1961 has just been published by the Division of Research Grants.

The 459-page booklet, entitled Public Health Service Grants and Awards by the National Institutes of Health, Fiscal Year 1961, lists 13,683 grants totaling \$311,930,632 for research and for construction of research facilities.

Approximately 88 percent of the total — \$273,941,050 — was devoted to the support of 13,534 research projects. These grants were made to 1,007 institutions in the United States and to 217 institutions in 47 other countries.

Grants to help build, equip or expand 142 research facilities totaling \$32,989,582 were awarded on a matching basis to 111 institutions. Seven additional research facilities construction grants totaling \$5 million were awarded on a non-matching basis by the National Cancer Institute.

The booklet is Part I of PHS Publication No. 883. Part II, covering research fellowships, training grants and traineeships, will be available shortly.

One indication of Radio Free Europe's effectiveness is the fact that the Communist propaganda machine has attacked the network more than 8,000 times in the last six years.

410 Set Puts NIDR Grants Assistant Ahead of All Area Women Bowlers

A National Institute of Dental Research staff member with a 94 bowling average topped all other women bowlers in the Washington area one night early this month by racking up an impressive 410 set.

She is tall, redheaded Barbara Danforth, a Grants Assistant in the Extramural Programs Branch, who walked off with the high score while playing with her Wednesday night duckpin league December 6.

Mrs. Danforth's games were 136, 130, and 144, bringing up her average to 98. Her feat also led her team to three victories and will bring her an award from the National Duckpin Bowling Congress.

A bowler since she was 19 years old, Mrs. Danforth is the second member of her family to hit the "big time." In 1959 her father, Elijah S. Widner, then 72, bowled a 392 set with a 102 average.

NIMH Scientists Develop New Theory Explaining Permeability of Nerve Cells

A new theory explaining the permeability of the surface membrane of nerve cells has been developed by National Institute of Mental Health scientists. The theory is based on recent experiments carried out on giant axons of the common squid.

These giant axons offer a unique opportunity for studying movements of various chemical substances across the surface membrane of the nerve cell. Although full-grown squid are only about one foot long, some of their axons in the stellate nerve — innervating the muscle for jet-propulsion in case of enemy attack — are exceptionally large.

The diameter of these axons is 1/50 to 1/25 of an inch compared to 1/10,000 to 1/1,000 of an inch for most animals. In addition a single giant axon of this type can be removed from a squid and cleaned of the surrounding tissue.

A technique has recently been perfected by which the major portion of the substance (axoplasm) inside the surface membrane can be removed without destroying the normal function of the axon to conduct nerve impulses.

Using a glass pipette introduced at each end of such a hollow axon, it was possible to bathe the interior of the axon with various artificial solutions containing radioisotopes. Since the surface membrane is to some extent permeable, the sea water surrounding such a perfused axon also becomes radioactive.

Comparing the radioactivity inside the axon with the radioactivity

in the surrounding medium, it is possible very accurately to determine the permeability of the membrane to various substances.

Conversely, it is possible to introduce radioactive material into the sea water surrounding such a perfused axon, and determine how rapidly the substance in question is transported across the surface membrane from outside to inside.

It was found by this technique that positively charged ions and radicals (sodium-, potassium-, guanidine-ions, etc.) are transported across the membrane far more readily than negatively charged particles (chloride-, bromide-, sulfate-ions, etc.). When the axon is artificially stimulated by electrical impulses, the transport of positively charged particles is profoundly accelerated while the movement of negatively charged particles remains uninfluenced.

Negative Charge Indicated

These basic studies, still underway, strongly suggest that the surface membrane of the squid axon has a fixed negative charge, exerting repulsive force upon negatively charged particles and permitting positively charged particles to jump from one negative site to the next.

The existence of such a negative charge in the membrane had been previously suggested by a few investigators but without any supporting experiments. The NIMH investigations provide a consistent theory which explains how excitation progresses in such a membrane with fixed negative charge.

Drs. I. Tasaki and C. S. Spyropoulos, NIMH, and Dr. T. Teorell, Visiting Scientist, University of Uppsala, Sweden, reported these permeability studies in the American Journal of Physiology.

Dr. Stetten Is Speaker At Diabetes Symposium

Dr. DeWitt Stetten, Jr., Associate Director in Charge of Research, National Institute of Arthritis and Metabolic Diseases, was one of the principal speakers at the Annual Symposium of the Clinical Society of the New York Diabetes Association in New York City, December 1.

Speaking on "Certain Aspects of the Metabolism of Insulin," Dr. Stetten recalled that the destruction of insulin in the animal body has been long known and presented studies defining the enzyme and the reaction causing its partial destruction in the liver.

The Symposium coincided with the 40th anniversary of the discovery of insulin and the 30th anniversary of the Clinical Society.



Barbara Danforth demonstrates the bowling form with which she scored a 410 set recently.—Photo by Sam Silverman.

Dr. Burton Addresses Gerontology Seminar At Duke University

Dr. Benjamin T. Burton, Special Assistant to the Director, National Institute of Arthritis and Metabolic Diseases, presented a talk on "Human Nutrition and the Aging Process" before the Open Seminar of the Duke University Council on Gerontology at Durham, N. C., recently.

Participants in this Seminar, held jointly with a meeting of the new North Carolina Council on Food and Nutrition, included representatives of the State and County Departments of Health and Welfare, and the State Medical Society.

Outlines Nutrition Status

"The trouble with aging and nutrition is that so many people are engaged in the former and so few know about the latter," Dr. Burton said in his opening remarks in which he outlined the status of nutrition in the elderly population.

Describing some of the present developments in studies on experimental and clinical nutrition, he said, "Experimental evidence has accumulated rapidly in recent years that, in laboratory animals, the timing, spacing, and rate of ingestion of food—more specifically 'nibbling' vs. 'meal eating'—may produce profound differences in intermediary metabolism and eventual body composition."

In conclusion, Dr. Burton pointed out that the life span and morbidity of contemporary man may possibly not be optimal because of today's dietary habits. He recounted that in the case of laboratory animals favorable adjustments had been possible through qualitative and quantitative changes in diet and eating pattern, adding, "Only future research, involving humans, can show whether this holds true for man as well."

2 Appointments Made To Training Committee

Richard L. Seggel, Executive Officer of NIH, has announced the appointment of two new members to the NIH Administrative Training Committee as replacements for two members whose terms will end December 31.

The new appointees are Robert E. Learmonth, Executive Officer of the National Cancer Institute, and James A. King, Assistant Chief of the Division of Research Services. The appointments are for 3-year terms.

The retiring members of the Committee are James B. Davis, Chief of the Supply Management Branch, OD, and Richard H. Hen-

ADA COUNCIL CHAIRMAN VISITS LAB



The three American Dental Association Research Associates at the National Institute of Dental Research (in lab coats) are visited here by Dr. R. L. Kreiner, Chairman of the ADA Research Council. Left to right: Dr. Edward G. Hampp, Senior Research Associate; Dr. Francis J. Kendrick, Dr. Kreiner, and Dr. Charles Wittenberger. Dr. Kendrick is discussing his research project concerning the effects of prenatal factors on fetal development in animals.—Photo by Bob Pumphrey.

Transport Mechanism Seen Absorption Aid For Anti-Tumor Drugs

Unlike most drugs which diffuse passively across the wall of the gastrointestinal tract, the anti-tumor drugs 5-fluorouracil and 5-bromouracil are carried across the intestinal wall by an active transport mechanism, National Heart Institute studies indicate.

When a drug is administered orally, two of its characteristics usually determine how rapidly it will be absorbed from the stomach or intestine: its fat solubility and its degree of ionization.

To "foreign" substances such as drugs, the lining of the gastrointestinal tract acts as an inert, fat-like barrier allowing the passive penetration of fat-soluble substances. Ionization hinders penetration because electrically charged

schel, Executive Officer of the National Heart Institute.

Kenneth H. Brown, Executive Officer of the National Institute of Allergy and Infectious Diseases, was reappointed to serve as Chairman of the 9-member committee for another year.

Other members of the Committee are Harold W. Curran, DRG; Eckart Wipf, NINDB; Clair E. Lacey, NIAMD; Clarence M. Hull, PMB; Ruth Dudley, NINDB; and Albert L. Pelmotor, PMB, Executive Secretary.

particles (ions) are not lipid-soluble.

Unlike "foreign" compounds, naturally occurring substances such as amino acids and glucose are absorbed with little regard for their fat solubility or ionization characteristics because the cells of the gut use energy derived from metabolic processes to pump such substances across the barrier and to overcome electrochemical forces opposing transport by simple diffusion.

The anti-tumor drugs 5-fluorouracil and 5-bromouracil are also readily absorbed from the intestine in spite of their poor solubility in fat. Studies reported in *Nature* by Dr. Lewis S. Schanker and John J. Jeffrey, of the NHI Laboratory of Chemical Pharmacology, indicate that these drugs are actively transported across the intestinal wall.

Earlier NHI studies had demonstrated that such an active transport mechanism operated in the absorption of certain naturally occurring pyrimidines, among them uracil. The substituted pyrimidines 5-fluorouracil and 5-bromouracil are apparently similar enough in chemical structure to uracil to compete successfully with it for the active pyrimidine transport mechanism. Both compounds effectively inhibited the absorption of uracil.

These studies suggest that anti-metabolites such as these two drugs may not only compete with normal substrates for metabolic processes within the cell, but may also compete with these substrates for transport into the cell.

Blood-Brain Barrier Is Nonexistent in Regions Of Brain, NHI Reports

The blood-brain barrier which restricts passage of substances into the brain and cerebrospinal fluid does not exist in special regions of the brain, National Heart Institute scientists conclude.

Earlier studies by investigators elsewhere had shown that dyes injected intravenously will stain certain special regions of the brain—the neurohypophysis, the adenohypophysis, the area postrema, and the intercolumnar tubercle—but not the rest of the brain. However, these investigators did not determine whether this reaction was due to an affinity between dye and tissue or to an absence of blood-brain barrier.

Reaction Studied

This reaction has now been studied by Dr. Cedric W. M. Wilson, presently with the Department of Pharmacology and General Therapeutics, University of Liverpool, England; and Dr. Bernard B. Brodie, NHI Laboratory of Chemical Pharmacology, who report their findings in the *Journal of Pharmacology and Experimental Therapeutics*.

Drs. Wilson and Brodie injected into the veins of cats, N-acetyl-4-amino-antipyrine (NAAP) and sulfaguanidine, substances known to mix easily and evenly with the water of tissues without being bound to cellular constituents. They then measured the penetration of these substances into the water spaces of the special brain regions and the rest of the brain proper.

Concentration Is High

Shortly after injection, the concentration of the substances was almost as high in the special regions as in the peripheral tissues. It was several hours before the concentration of NAAP or sulfaguanidine in the cerebrospinal fluid or the other regions of the brain approached this level. From these results, it is apparent that these special regions of the brain have little or no barrier to the entrance of these substances.

There are other differences between the special regions and the rest of the brain: the small number of neural cells; a different vascular pattern; and some evidence of a neuroendocrine function.

An X-ray is the simplest way of telling whether you have tuberculosis. Public Health authorities usually recommend a chest X-ray with their regular physical check-up for older persons. A tuberculin test is suggested first for younger people.