

The NIH Record

U.S. Department
of Health
and
Human Services

December 8
1981
Vol. XXXIII
No. 25

National
Institutes
of
Health

Chimpanzee Antibodies: Potential Cancer Weapon

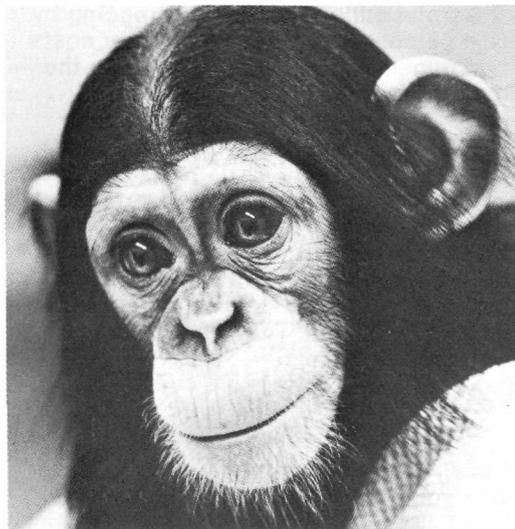
Using the chimpanzee as a prime laboratory animal, researchers at the Yerkes Regional Primate Research Center in Atlanta have produced a potentially effective method of diagnosing melanoma, a form of cancer considered to be the leading cause of death from all diseases arising in the skin.

Preliminary clinical testing at Duke University indicates that this new diagnostic tool may be faster and more precise than conventional methods for detecting melanoma.

The senior investigators involved are Drs. Richard Metzgar and Hilliard Seigler, professors of immunology and surgery respectively at Duke University. They have been conducting their research at Yerkes for over 15 years. Yerkes, associated with Emory University, is supported by the Animal Resources Program, Division of Research Resources. The National Cancer Institute and the Veterans Administration have directly funded the research carried out by the two scientists.

In a related development, a new treatment method for leukemia, pancreatic cancer, and melanoma is expected to be ready for clinical evaluation within several years. Like the diagnostic tool for melanoma, this

(Continued on Page 10)



The importance of the chimpanzee as an ideal laboratory animal model has been demonstrated in both the hepatitis B vaccine research and the melanoma diagnostic method development described in this issue of *The NIH Record*.

NIH Played Major Role in Finding Antigen For Hepatitis B Vaccine Development

The Food and Drug Administration announced the licensing of a new virus vaccine to combat hepatitis B, at a press conference Nov. 16.

Dr. Arthur Hull Hayes, Jr., commissioner of food and drugs, hailed the cooperative efforts of scientists from the NIH, Centers for Disease Control, industry and academia that had made the vaccine possible.

This is the first completely new viral vaccine licensed in 10 years and the first ever licensed by the FDA to be made directly from human blood.

There are 200,000 to 300,000 new hepatitis B infections each year in the United States. In addition to the 100 to 200 persons who die from acute disease, approximately 5-10 percent of infected individuals become carriers. This reservoir of 400,000 chronically infected persons can transmit the infection to others and are themselves at increased risk of degenerative liver disease and liver cancer.

Several scientists were cited for roles in discovering the antigen for hepatitis B and using that breakthrough as a starting point for vaccine development.

The antigen was discovered by Nobelist Dr. Baruch S. Blumberg, of the Institute for Cancer Research in Philadelphia. Collaborating with Dr. Blumberg was Dr. Harvey Alter, of the NIH Clinical Center Blood Bank.

Dr. Saul Krugman of New York University demonstrated that viral antigen in human blood might itself, be used as a vaccine.

Drs. Robert Purcell and Franklin J. Tyeryar of the National Institute of Allergy and Infectious Diseases and Dr. John Gerin (supported by NIAID at Georgetown University Medical Center) organized studies to determine the feasibility of a vaccine.

Several investigators participated in the search for a suitable animal model. Dr. Purcell, Dr. James Maynard of CDC, the Bureau of Biologics' Drs. Lewellys Barker (now with the American Red Cross), Robert Gerety, Edward Tabor and Linda Smallwood found that chimpanzees could be used to test the safety and effectiveness of the experimental vaccine. The National

(See VACCINE, Page 6)

Dr. Louis Sokoloff Wins 1981 Lasker Award For Method To See Brain Neural Pathways

Dr. Louis Sokoloff was awarded the 1981 Albert Lasker Clinical Medical Research Award and \$15,000 last month for developing a technique at the National Institute of Mental Health that enables scientists to visualize the simultaneous biochemical activity of an entire network of neural pathways in the brain and central nervous system.

Dr. Sokoloff's method, which uses an analog of glucose, the brain's primary fuel source, to "freeze" and thus observe biochemical processes, makes feasible technologies such as positron emission tomography that were long theorized by neuroscientists but not previously practicable.

The citation for the prize states that the scientist's "brilliant contributions constitute a prime example of a bridge that leads from basic laboratory research to clinical application that can benefit literally millions of people everywhere.



Dr. Sokoloff developed a technique that enables scientists to map glucose utilization in the brain.

"The Sokoloff method has facilitated the diagnosis, understanding, and possible future treatment of such disorders of the brain as schizophrenia, epilepsy, brain changes due to the drug addiction, and

(See DR. SOKOLOFF, Page 9)

The NIH Record

Published biweekly at Bethesda, Md., by the Editorial Operations Branch, Division of Public Information, for the information of employees of the National Institutes of Health, Department of Health and Human Services, and circulated by request to writers and to researchers in biomedical and related fields. The content is reprintable without permission. Pictures may be available on request.

The NIH Record reserves the right to make corrections, changes, or deletions in submitted copy in conformity with the policies of the paper and HHS.

NIH Record Office

Bldg. 31 Room 2B-03, Phone 496-2125

Editor

Jerry Gordon

Staff Writers

William B. Reinckens
Joyce F. McCarthy

Staff Correspondents

CC, Barbara Smakula; DCRT, Mary Hodges; DPM, Judy Fouche; DRG, Sue Meadows; DRR, Barbara Menick; DRS, Arthur F. Moore; FIC, Susan P. Stark; NCI, Patricia A. Newman; NEI, Marsha Corbett; NHLBI, Bill Sanders; NIA, Ann Dieffenbach; NIAID, Jeanne Winnick; NIADDK, Linda Cross; NICHD, Pamela Driscoll; NIDR, Sally Wilberding; NIEHS, Hugh J. Lee; NIGMS, Wanda Wardell; NIMH, Paul Sirovatka; NINCDS, Diane Striar; NLM, Roger L. Gilkeson

FAES Sponsors Lecture Dec. 11

The Foundation for Advanced Education in the Sciences is sponsoring a lecture entitled, *The Image of Venice as Seen Through the Eyes of the 18th Century Painters*, on Friday, Dec. 11, at 8 p.m., in Bldg. 1, Wilson Hall.

It will be presented by Professor Terisio Pignatti, department of art history, University of Venice, and curator emeritus of the city museums of Venice. □

Training Tips

The following courses, sponsored by the Division of Personnel Management, are given in Bldg. 31.

Office Skills	Course Starts	Deadline
Medical Terminology I	2/23	2/8
Medical Terminology II	2/23	2/8
Communication Skills		
Introduction to Sign Language	12/29	12/15

To learn more about these and other courses in office and communication skills, contact the Training Assistance Branch, DPM, 496-2146.

Meals Available at Preschool

Parents of Preschoolers, Inc.—a non-profit corporation which sponsors two day-care programs for children of NIH employees—has announced sponsorship of the Child Care Food Program.

Meals will be available to children enrolled in the NIH Preschool Developmental Program and the Ayrilawn School-Age Programs. □

Memos Caution Employees To Eliminate Holiday, Personal, Misdirected Mailings

Several significant memoranda regarding NIH mailing processes have been received by Bill Arnwine, NIH mail manager, in the past few months. He urges all NIH personnel to adhere to the information contained in the following excerpts.

Holiday Season Mail

The volume of mail to be processed by the NIH Mail Room traditionally rises to enormous proportions before and during the holiday season. In an effort to curtail the load this year, the Division of Administrative Services advises all personnel as follows:

1) Bulk mailings of printed matter, such as books, pamphlets, etc., be held until after the holidays unless it is absolutely necessary that the material go out.

2) Greeting cards, packages and other personal mail be channeled through regular post office facilities rather than the NIH mailrooms.

3) Personal mail for coworkers be addressed to their homes rather than office address.

Personal Use of Mail

Further caution regarding personal use of office mail has prompted a recent memo from the Office of Management, PHS, as follows:

The Inspection Service of the U.S. Postal Service has informed the Department that envelopes bearing Department's indicia have come to the attention of the Inspection Service as containing personal mail.

Use of postage and fees-paid envelopes are to be used for official mail relating exclusively to U.S. Government business. Any other use is prohibited and may result in a fine of not more than \$300.

Buildings and Room Numbers

A recent memo from the Office of the Associate Director for Research Services requests NIH personnel to encourage correspondents to use the correct building and room number in all mail addressed to individuals at NIH. In addition to names of Institutes, laboratory, branch, section, etc., every piece of mail should contain the correct building and room number. Mail is sorted by building and room number. If this information is missing, special attention is required by mail handlers.

Reprint Requests

Another problem encountered in the NIH Mail Room is on reprint requests for scientific published papers. Almost 5,000 papers were published from NIH last year, in turn generating an average of at least 50 reprint requests per paper. This totals approximately a quarter million pieces of mail per year. Rarely, if ever, are institutional affiliations and addresses published in the papers.

A footnote suggesting that "reprints can be obtained from Dr. __, Bldg. __, Rm. __,



National Institutes of Health, Bethesda, Md. 20205" would save a great deal of sorting and searching time.

Misdirected Mail

The NIH Mail Service System processes an enormous amount of misdirected mail daily. Improperly addressed mail requires separate handling and a considerable waste of time to search for, determine, and correct mislabeled envelopes. Approximately 2,500 misaddressed incoming and outgoing items flow into the NIH mailing section each day.

The following actions are advised on bulk mailings.

1) Ensure that addresses on mailing lists are maintained up to date.

2) On receipt of return mail, purge mailing lists as necessary.

3) On receipt of incorrectly addressed correspondence, obtain an Address Correction Request form, NIH Test Form 8/81, complete it as shown, and forward it to the person, business, or publisher who sent it.

Careful adherence to the foregoing by NIH personnel can cut down labor costs and unnecessary delays in "getting the mail through." □

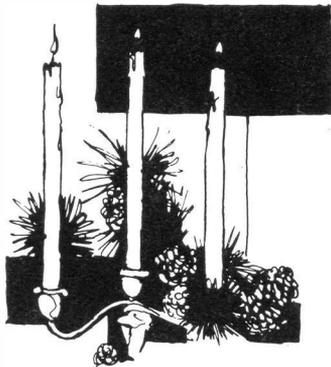
All the Way From Mt. Airy

Bus service between Mt. Airy, Md., and NIH has recently been put into operation. NIH employees living in the area can now avail themselves of this service. The buses of the Eyre Bus Service leave Mt. Airy at 6:15 and 6:35 a.m. They return from NIH at 6:10 and 6:48 p.m.

For further information, call 854-6600. □

I shall pass through this world but once. Any good that I can do, or any kindness that I can show any human being, let me do it now and not defer it. For I shall not pass this way again.—Stephen Grellet □

Happy Holidays . . . Happy Holidays . . .



The staff of *The NIH Record* wishes everyone a joyful and safe Holiday Season.

The next *NIH Record* will be published Jan. 5, 1982.



Christmas Carol Concert Will Be Held on Dec. 18

Over 25 voices will blend together in Christmas songs from yesteryear and the current century on Friday, Dec. 18, in Masur Auditorium starting at noon.

The traditional NIH Christmas Choral Concert, under the direction of Richard Shrager, DCRT, will be presented for the 12th year.

The NIH Singers and Madrigal Singers will give voice to selections from and around the year 1400, selections from the Renaissance, and modern carols interspersed with short sacred works.

Included is a newly discovered carol by the "Ersatz composer," P.D.Q. Bach. It is entitled, "Throw the Yule Log on, Uncle John."

The concert will be followed by the annual carol sing-along, directed by Ben Fulton, NICHD.

All NIH personnel are invited to attend.



Happy Holiday Safety Notes On Decorations at NIH

With the approach of the holiday season, most folks in NIH buildings are looking forward to seeing the traditional gay seasonal sentiments conveyed by door decorations and small trees.

Fire Chief William F. Coleman, Sr., has issued a memorandum to all NIH personnel to ensure the safety of all concerned.

Thursday, Dec. 17, has been set for the initial permissible setting up date for trees and decorations.

For decorations, the use of glass mica or metal ornaments is preferred. If ornaments are made of combustible materials, they must be of the flameproof variety.

No lights are to be placed on aluminum trees.

No candles are to be burned in any building.

No decoration lights are permitted in Bldg. 10.

Notify NIH Fire Dept. at 496-2372 after trees with lights are installed and request inspection.

Shut off tree lights when leaving area.
Make sure exits are not blocked.
Safety from fire makes a happy holiday.

Do You Have the Xmas Blues?

Contrary to those of us who look forward to the holiday season, there are many others who dread it. According to Rachele Selzer, chief mental health counselor, Employees Assistance Program, there are several psychological reasons why the annual holidays bring on tension, anxiety, or depression in certain people.

Some major reasons for this condition might be ascribed to loneliness, being unable to join the family in another part of the country, the recent loss of a spouse, the anticipation of an unwelcome annual family gathering, the dilemma of expecting to be happy on command, or the ordeal involved in selecting and buying Christmas presents.

Ms. Selzer will discuss methods of dealing with this annual problem in her session, *How to Cope With the Holiday Blues*, on Monday, Dec. 14, Bldg. 31, Rm. B2C-06 from noon to 1 p.m.

For further information, call her at 496-3164.



Emergency Fund Begins Annual Christmas Drive

The Christmas drive for the Clinical Center Patient Emergency Fund is under way to collect money for patients and their families. Each year employees are encouraged to donate to the fund rather than send out Christmas cards.

The Patient Emergency Fund furnishes patients and their families with services and comforts that cannot be obtained with government funds. The fund assists in providing transportation costs for family members, and miscellaneous expenses.

Donations should be made payable to P.E.F.-NIH and sent to the Social Work Department, Bldg. 10, Rm. 7D-53, or to any R&W gift store.



NIH Chamber Orchestra Gives 1st Concert, Dec. 11

The NIH Chamber Music Orchestra, organized by Dr. Liana Harvath, NCI immunologist and cellist, will present a free concert on Friday, Dec. 11, at 8 p.m., in Masur Auditorium.

The new ensemble—which consists of approximately 18 musicians—will be conducted by Dr. Norman Nunamaker, violinist and music director of Gettysburg College. String compositions by Corelli, Hindemith, Hoist and Mozart will be included in the program.

All NIH personnel and friends are invited to attend.



NINCDS Consensus Panel Finds CT Scanning Safe, Accurate Tool

Computed tomographic scanning of the brain is a safe, accurate, and powerful tool in the primary diagnosis of brain tumors, brain hemorrhage, major head injury, and certain brain infections, agreed members of a blue-ribbon panel at a recent NIH Consensus Development Conference on CT Scanning of the Brain.

CT is a remarkable imaging technique that combines X-ray equipment with a computer and television-type display.

The consensus development panel cautioned in its draft report, however, that CT should not be employed as a "routine screening procedure" when patients show little likelihood of structural disease such as minor head trauma or simple headache.

These recommendations followed an intensive 2-day conference sponsored by the National Institute of Neurological and Communicative Disorders and Stroke and the National Cancer Institute.

"The time was ripe for a consensus development conference," remarked conference organizer Dr. Michael D. Walker, NINCDS Stroke and Trauma Program director. "The field has stabilized, and enough data have accumulated in the last 10 years to allow an in-depth exploration of the CT."

The 13 scientists and health administrators charged with assessing the scanners concluded that the machines have been a major factor in decreasing deaths—especially in severe head injury and brain abscess. The presence of these conditions clearly calls for the diagnostic assistance of the CT, according to the panel.

Many Uses Found

Other indications for CT use specified by the panel include suspicion of arteriovenous malformations, hydrocephalus, herpes simplex encephalitis, parasitic infestations, progressive degenerative diseases of the brain, and intracranial tumors.

In primary brain tumors, the use of CT has resulted in the detection of smaller lesions, lower death rates following surgery, and decreased time in the hospital.

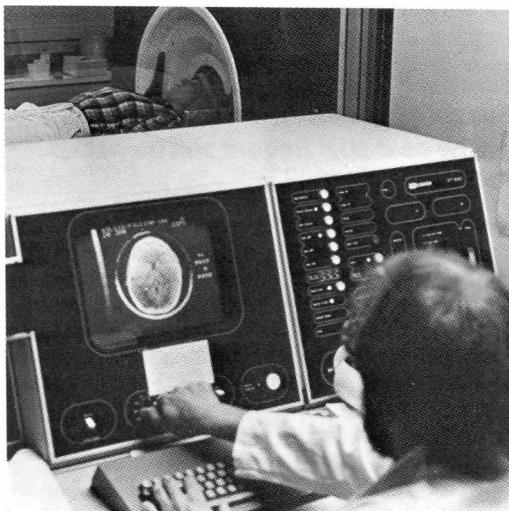
The panel also concluded that CT will usually differentiate between ischemic and hemorrhagic intracranial lesions—helping the physician to select appropriate medical or surgical therapy.

Another use for CT is the identification of a potential structural cause of complex partial or focal epileptic seizures.

The panel found CT to be an important clinical tool in pediatric neurology that should be used to evaluate undiagnosed coma and a number of other neurological symptoms.

Although panel members acknowledged that CT carries potential hazards, including a small risk of adverse reactions to contrast material if used, their report concluded that the procedure is "remarkably safe."

The amount of radiation produced by the CT is comparable to or less than that



During a CT brain scan, a pencil-thin X-ray beam passes through the patient's head and creates sectional images. The computer calculates the attenuation of the beam, giving density readings at 28,000 points for each "slice," and then projects the picture of each slice onto the screen. The circular apparatus moves slightly forward and performs another scan. Blood clots, hemorrhages, and other cerebrovascular disorders can thus be detected.

emitted from many other routine diagnostic procedures, including dental X-rays, the panel reported.

A complete scan emits 1 to 10 centigrays of radiation to the brain. The "gray" is the new unit by which radiation dose is expressed, replacing the "rad" (1 gray = 100 rads; 1 centigray = 1 rad).

The panel also suggested that physicians use special caution in ordering multiple scans for children since "the effects of repeated cumulative low-level radiation doses to the immature, developing brain are as yet unknown."

Charged with assessing the impact on other techniques for "imaging the brain," the panel found that the CT scan's superior ability to detect intracranial and intracerebral disease has led to the decreased use of other radiographic methods such as skull roentgenography and cerebral angiography.

In line with the report, panel chairman Dr. Fred Plum, who is chairman of the Cornell University Medical College Department of Neurology, asserted that "any cost imposed by the use of CT's has been offset by the reduced costs resulting from the declining use of other scans."

Reduces Hospital Stays

Furthermore, according to evidence presented to the panel, CT use in outpatient diagnosis has reduced hospital admissions and shortened hospital stays.

CT costs may be reduced even further if physicians heed the panel's advice concerning the criteria for machine use.

"CT is not the neurologist's chest film," said Dr. Plum. "The application of this new technology is probably most overused in headache diagnosis," he added.

According to the panel report, only patients who have severe, constant or unusual headaches or those associated with abnormal neurological signs should be considered for CT scanning.

The panel also voiced concerns about the availability of CT scans. Although there are 1,400 scanners in the U.S. today, the scientists concluded that CT "may not be sufficiently available for the public to derive the full benefit of its potential."

The panel felt there might be an insufficient number of instruments in some large metropolitan areas, in medically underserved areas, and in sparsely populated regions which experience a high incidence of head trauma.

The inadequate number of CT scanners in the U.S. may be due not only to the cost of the equipment—from \$150,000 to over \$1 million—but also to the elaborate regulatory process required of hospitals and physicians who wish to buy them.

The "certificate of need" that is required for the purchase of scanners is obtained through a public process that includes hearings and may cost well over \$100,000, according to Dr. Plum.

"One hospital in Connecticut paid 20 percent of the costs of the machine just to get permission to buy it," added Dr. Hillier L. Baker, panel member and professor of radiology at the Mayo Clinic.

"Both state and Federal regulatory processes have placed enormous restraints on hospitals getting scanners," said Dr. Plum. "These restrictions pose the greatest obstacle to the growth of the use of scans in the U.S." □

Smoke Detectors Recalled

The Office of Safety and Occupational Health, HHS, has issued a hazard alert regarding the recall of certain battery-operated photoelectric smoke detectors sold since 1979.

The units are being recalled by Chloride Pyrotector, manufacturer, because a potentially defective electronic microchip may prevent the alarm from sounding in the presence of smoke.

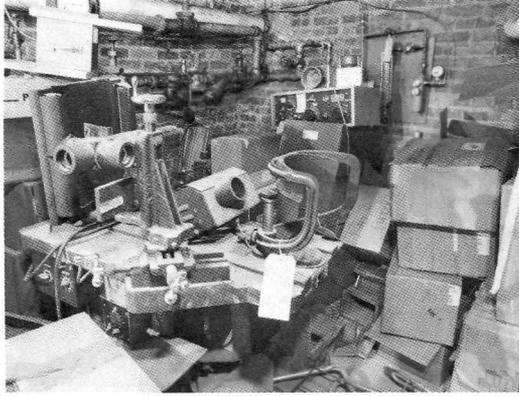
These units are:

Chloride Protector—Models 3077,3078,3079
Archer—No. 275453 (through Radio Shack)
Masterguard—MGB 360
Vanguard—817
Protect-er Systems—P365

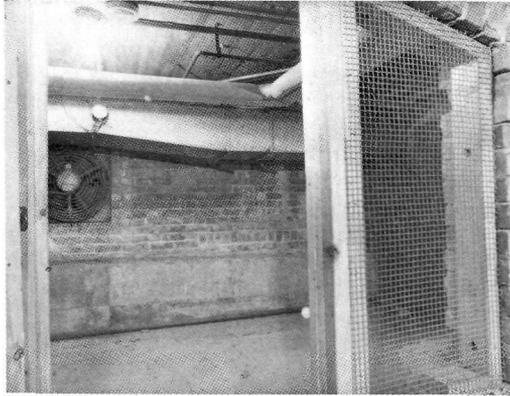
Consumers should remove the backplate to check the model or code numbers. Potentially defective models also will have a six-digit code showing dates between 030179 and 031581. The model numbers can be verified by calling the Consumer Product Safety Commission (800) 638-8326. In Maryland, call (800) 492-8363.

The efficiency of smoke detectors can be checked by testing with a fresh 9-volt battery. If the audio alarm does not sound, users may call Roberta Calla, Chloride Pyrotector, at (800) 343-5647 for instructions on where to send for a free replacement or repair. □

Cleanup Campaign Working; Cooperation Key to Successful Results



The basement storage room in Bldg. 9 before the cleanup was filled to capacity.



The Bldg. 9 basement storage room after cleanup is now a much safer area.

The cleanup campaign of NIH laboratory buildings started in September has "worked out well," according to Daniel Kenney, assistant office manager of the Division of Administrative Services, General Services Management, coordinator of the project.

So far, Buildings 9, 5 and 7 have been cleaned from top to bottom resulting in a much safer environment for everybody. As project director, Mr. Kenney seeks to involve everyone in making their work environment cleaner and safer.

Keep It Clean

"We want to get people more aware of where they're working and keeping it clean. We want to get people to dispose of the chemicals they don't need and not to stockpile things," he said. In some NIH buildings, one can see trash in the hallways, debris not properly disposed of, unused and forgotten chemicals located on back shelves, and cluttered rooms.

One building is being worked on at a time. Bldg. 9 was chosen first because of its relatively small size and because it contains laboratories. Individuals are responsible for cleaning up their own areas. However, people from grounds maintenance, safety, housekeeping, shops, and other support groups are available to help.

During the Bldg. 9 cleanup, three trailer truckloads of material were taken from the building. All surplus equipment was hauled away by Transportation Services

and taken to the Property Utilization Branch for cataloging. The entire operation took 4 days. After the 4 days, Sanitation Services came in and cleaned walls, windows, lights, etc.

In the basement of Bldg. 9, cleaners found a box containing a brand-new, very expensive laboratory instrument that had been sitting there for over 5 years. Not only is the cleanup campaign necessary because of safety reasons, but it puts previously idle equipment back into use for others.

Three regular truckloads of material were hauled away from Bldgs. 5 and 7, and those buildings also took 4 days to clean. Thirteen laboratory buildings remain to be cleaned. Bldg. 2 is scheduled for Dec. 8. After the holidays, Bldg. 4 will be the next location to be processed.

Brochures Distributed

First, the project director meets with the administrative officers representing the occupants of the building. The AO's then set up an "occupants coordinating group" to distribute brochures, encourage their colleagues to participate, and become actively involved during the cleanup.

Some of the procedures described in the brochure are first, the packaging and labeling of chemicals. A single tag is provided by the AO to alert the contractor to enter the laboratory for waste chemical pickup. The tag is affixed to the laboratory door the day before pickup. A safety representative is available for the proper

labeling and packaging of the chemicals.

Second, any empty or unneeded gas cylinders are tagged for removal. Third, fiberboard boxes and trash bags are provided for refuse. After all the burnable and nonburnable trash is collected, it is removed by Sanitation Services.

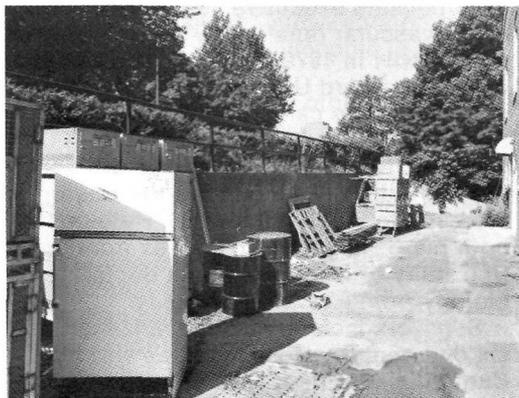
Next, unneeded furniture, equipment, and instruments are removed and surplus. These items should be placed in the corridor to the laboratory/office and a special transportation crew will remove this equipment on the last cleanup day. A list of all accountable items should be prepared and given to administrative officers.

"The investigators' cooperation has been very good," said Mr. Kenney when referring to the orderly cleanup process. After all the corridors are free of material and equipment, special housekeeping crews come in to wash the entire building. Finally, each person checks for and reports any safety defects in their newly clean surroundings.

Mr. Kenney sees this campaign as an ongoing project. Currently, there is no set schedule for buildings to be cleaned after Bldg. 4 is completed. If interested in being scheduled, call Mr. Kenney, 496-4755. □



Elaine F. Brill, secretary, received an NIH Suggestion Award for \$150 from George F. Russell, Jr., director of the Division of Management Policy. Her suggestion regarding insertion of identification and phone numbers of issuing offices in the NIH Manual System will save countless searching hours in the future. New guidelines incorporating her suggestion will appear in the revised NIH Manual Chapter 1710, NIH Manual System, soon to be distributed.



This is the walkway outside Bldg. 9 before it was cleaned.



The same walkway outside Bldg. 9 after cleanup looks much different.

R&W Has Tickets for Cultural Events

The R&W is offering tickets for the following events at Kennedy Center:

Jan. 4, New York Philharmonic, Zubin Mehta, music director, Mozart: Overture to *Così fan tutti*, Hayden: Trumpet Concerto, Mendelssohn: Violin Concerto, Strauss: Waltz selections. Cost, \$17.50.

Feb. 24, Jury's Irish Cabaret of Dublin—Company of 30 singers, dancers, harpists, fiddlers, and storytellers. Cost, \$12. □

New Computerized Security System Makes Progress

So far this year, 30 NIH buildings have been outfitted and incorporated into a new computerized electronic door locking security system. Already, plastic cardkeys have replaced front door keys for some employees working evenings, on holidays, and weekends.

At 14 different locations on campus now, employees will find a recently installed electronic cardreader near the main entrance to a building. This new, sophisticated electronic computerized hardware has the capability to monitor the movement of thousands of people at hundreds of locations simultaneously.

The computer, located in the NIH Police Department's command post in Bldg. 31, receives an electronic signal once a reader is activated by an employee's plastic card. It can record who enters a laboratory or other location, and when or who attempted



Ms. Thomson demonstrates how easily the new card security system works. The "cardreaders" will be located at the main entrance of buildings for use with the plastic "cardkeys."

to enter and was denied access and why. In addition, the system can also monitor intrusions, duress and burglar alarms.

Not everyone will receive one of these

new plastic cardkeys, according to Charles R. Pyles, security specialist, Security Evaluation Section, Protection and Security Management Branch, DAS. "Only those required to work at a particular time will receive one," he says. He also noted that issued cardkeys can be programmed to indicate the hours an employee may have access to a work area.

For a while now, employees at the Lister Hill Center have become accustomed with the new security system. "Each card is different. No two cards will ever be the same even if one is lost and later replaced," Mr. Pyles says.

Generally, once a building is ready to become part of the security network, SES will contact the administrative officer and make arrangements for cardkeys to be issued to the employees.

He advised that if a card is lost or stolen, the employee should call him immediately at 496-3211, and one will be re-issued. So far, the system seems to have made NIH employees more security conscious about their own personal safety and the security of government property.

"No employee should ever feel that he might be trapped inside a building because of the electronic locking system," Mr. Pyles notes, "because already engineered into the system is a 'fail-safe mechanism' that permits an employee to exit through an electronically locked exterior door."

In addition, the security system has anticipated the situation where the computer might lose power or have programming difficulties. In those cases, the computer automatically shuts down and unlocks all exterior doors.

Currently, security plans only call for the

infection. He said vaccinating those persons also would protect others, since it would interrupt the route of further transmission.

Vaccine Is Not Curative

The vaccine is strictly prophylactic and will not cure those already infected, although Dr. Francis said, it might offer some protection if a person were vaccinated immediately following exposure.

Vaccination involves three 20-microgram doses, with the second dose given 1 month after the first and a "booster shot" given 6 months after the first. In 2½ years of followup, more than 90 percent of persons vaccinated have maintained a sufficient level of antibodies to protect them from infection. □

Swedish University Honors Dr. Butler

Sweden's University of Goteborg awarded Dr. Robert N. Butler, Director of the NIA, one of its four annual Doctor of Medicine degrees in October. Dr. Butler was honored for his international contributions to the field of aging, which has had an important bearing on the development of the geriatric and long-term care programs at Goteborg University. □



NIH Police Lt. John I. Knight (r), and Deborah A. Thomson, security assistant, Security and Evaluation Section, check a computer printout of card numbers of employees who enter and exit NIH buildings. A permanent record is kept at the NIH Police command post.

installation of cardreaders at the main entrance to buildings. However, future plans include the setting up of other readers at different locations around a building.

Security Hours Observed

Security hours (6 p.m. to 6 a.m. weekdays and 24 hours holidays and Saturday and Sunday) will remain unchanged for now. As in the past, all admittance to and departures from an NIH building will be by the front door. All violations of secured doors shall be investigated by the NIH police.

Until installation of the new system advances further, those employees seeking entrance to a locked building before or after regular working hours should contact the NIH police by telephone, or by using a direct-line telephone located outside of many NIH buildings. □

Dr. Charles M. Goolsby Dies; Was Grants Administrator

Dr. Charles M. Goolsby, 61, a former health science administrator in the Division of Research Grants, died of cardiac arrest Oct. 14 at Shady Grove Adventist Hospital in Gaithersburg, Md.

Dr. Goolsby joined NIH in 1975, and in 1978 became executive secretary of the cardiovascular renal study section in DRG. He left NIH in 1979 to become an assistant dean at Howard University.

Earlier in his career, Dr. Goolsby taught at Tennessee State and Northeastern Universities. He later worked as an official of the Institute of Education in the Boston area and in Washington, D.C. He earned both his B.A. and M.A. degrees from the University of Nebraska and a doctorate in biology from Harvard University.

Survivors include his wife, Elizabeth, and six children: Charles M., Jr.; Lewis; Catherine; Margaret Ann; Ellen; and Carol, all of Potomac, Md.

VACCINE

(Continued from Page 1)

Heart, Lung, and Blood Institute and NIAID funded clinical studies of the vaccine.

The vaccine, made from purified non-infectious hepatitis B particles harvested from the plasma of carriers, takes 65 weeks to process and purify. The manufacturer, Merck Sharpe & Dohme, estimates it will be mid-1982 before sufficient quantities will be available for commercial distribution.

High Risk Groups Noted

The FDA advises that initially only persons at high risk of contracting hepatitis B be vaccinated. The infection is spread through human blood, saliva, tears and semen. High risks groups include blood bank and dialysis workers, surgeons, dentists and others who come into contact with chronically infected individuals; drug addicts; and people with a very large number of sexual contacts. Studies have shown some male homosexuals, for example, to be at high risk.

Dr. Donald Francis of the CDC told the press conference an estimated 10 million Americans are of high risk of hepatitis B

First Deaf Management Intern in HHS Aims To Improve Opportunities for Handicapped Employees

NIH has an HHS management intern. He is very much like other interns. He is highly qualified and committed. In fact, these qualifications helped him to compete against more than 2,500 applicants.

However, there is one difference. He is deaf. Richard Cunnien is the first deaf management intern in HHS. He is assisting the Division of Equal Opportunity in developing the NIH Handicapped Employee Program.

Interns complete four 9-month assignments in three HHS components to develop management skills in personnel, budget, program management, and their target position area. The internship is designed to provide participants with a broad based experience to prepare them for future HHS management functions.

Mr. Cunnien has completed two phases of the internship program, working for the PHS Health Resources Administration, Financial Management Branch and the Human Development Service, Office for Handicapped Individuals.

Infection Caused Damage

Seven years ago an ear infection irreversibly damaged Mr. Cunnien's auditory nerves. He has the physical equipment for hearing, but needs the physical means to connect the sound waves to the brain. Limited nerve implant surgery is now being done on young adults, but it is still in the developmental stage.

For 10 years prior to losing his hearing, he was a publishing consultant to college publications. After losing his hearing, he attended Gallaudet College, the world's only liberal arts college for the deaf, where he was graduated with a B.A. degree in government/constitutional law.

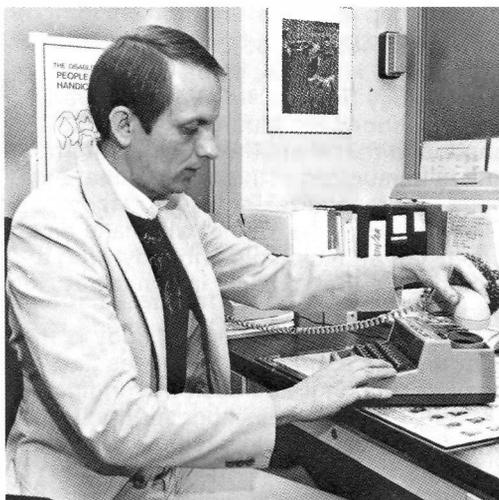
Unable to find an EEO-related job in government, he worked as a landscaper at the college and later as an orders editor at the Government Printing Office.

Deafness has meant many adjustments for Richard Cunnien. He is good-humored when he talks about the times he has been yelled at by someone who did not realize he is deaf. He can only read lips if people face him.

This situation may be even more confused by the fact that some words cannot be lip-read (such as "cottage cheese") because the lips don't move enough and others may be indistinguishable (a cough may look like "hi").

Mr. Cunnien sensitizes others about the realities of being disabled. For example, he points out that a disability means a mental or physical impairment which prevents a person from doing something in the usual way. Mobility may be restored with the use of a wheelchair. Blind people can maintain brailled or taped records, rather than printed material.

A handicap occurs when an environmental factor such as steps or a curb, interferes with one's access. The govern-



Mr. Cunnien prepares to use a TTY (telecommunication device for the deaf) by placing the telephone receiver in the instrument. The party on the other end of the line will type the message, and it will appear on the display section of the unit.

ment can improve this environment.

The year 1981 was designated by President Reagan as the International Year of Disabled Persons. In signing the proclamation, the President called the 35 million disabled Americans "one of our most underutilized national resources."

At NIH, many buildings have been made accessible to handicapped individuals. There are approximately 400 handicapped employees, including disabled veterans. About 50 are hearing-impaired.

"It's very frustrating to be regarded as someone who is sick," says Mr. Cunnien. "Persons with disabilities may or may not have medical problems, just like nondisabled persons.

"I've been to job interviews where I've been compelled to focus on my disability, rather than my ability to qualify for the job. It's difficult to steer some people away from it."

Such experiences have led Mr. Cunnien to make a personal commitment after completing the internship to work as a handicap program manager for HHS.

He further says, "there's a great need for handicapped people to be involved in EEO. I would hope that handicapped program managers can work their way out of a job when commitments become realities." □

Freeze-Drying Seminar To Be Offered

The NIH Scientific Equipment Services of the Biomedical Engineering and Instrumentation Branch, DRS, will present a lecture and lab session dealing with the proper use and operation of freeze-drying equipment. The seminar is currently being scheduled for January 1982. Depending upon response, its time and date will be announced later. Contact Mrs. Shelley Fuller at 496-4656 to register. □

Phone for Deaf Available

The National Institute of Dental Research's EEO office has obtained a Telecommunications Device for the Deaf, a machine that allows communication with hearing-impaired individuals. The TTY was acquired through the efforts of Frances Cannon, NIDR representative to the NIH Handicapped Committee.

Information concerning the EEO program, the EEO complaint mechanism, employment, training, and community services are now available through this system. Sign language interpretation is also provided for hearing-impaired individuals who wish to visit the NIDR/EEO office. Appointments are not required but are recommended. The office is located in Bldg. 31, Rm. 2C-19; or 496-3046. □

Dr. Donald Calne Goes To British Columbia Post



Dr. Calne is a well-known authority on the treatment of movement disorders. His research on L-dopa resulted in significant improvement in the treatment of Parkinson's disease.

Dr. Donald B. Calne, clinical director of the NINCDS Intramural Research Program since 1974, left the Institute Nov. 14 to become professor of medicine and head of the division of neurology, department of medicine, Health Sciences Center Hospital, University of British Columbia.

Dr. Calne, who was also chief of the NINCDS Experimental Therapeutics Branch, will assume additional responsibilities as head of the university's new movement disorders unit.

His current research includes testing new drugs such as lisuride or pergolide which may provide an alternative to levodopa therapy. Other recent studies conducted at NIH under Dr. Calne's direction include a comparison of subjective and objective measurements of parkinsonian symptoms and an investigation of why certain patients taking levodopa experience an "on/off" effect that causes a sudden reversion to parkinsonian symptoms.

A new NINCDS clinical director has not yet been named. □

Hybridomas—Monoclonal Antibodies— Discussed During Science Writers' Seminar

Hybridomas—the cellular factories that spew out extraordinary quantities of exquisitely specific monoclonal antibodies—are revolutionizing basic and clinical research in a host of areas.

At a recent NIH Science Writers' Seminar held here, intramural scientists from the National Cancer Institute and the National Institute of Allergy and Infectious Diseases described to reporters and other attendees the state of the art of this new technology in their fields.

Dr. Jay Berzofsky, a senior investigator in NCI's Metabolism Branch and moderator of the seminar, explained how hybridomas combine the specificity of the immune spleen cell with the immortality and growth capacity of the malignant tumor.

Hybridomas were first produced by two scientists in England—Köhler and Milstein—in 1975 when they fused antibody-producing lymphocytes from the spleens of immunized mice with cells of a malignant myeloma tumor to produce clones of homogeneous malignant cells, all producing the same desired antibody which one could grow in virtually endless supply.

Before the advent of hybridoma technology, nothing was known about the detailed structure of the combining sites of antibodies as well as of the structure of antigenic sites of proteins. The monoclonal antibodies provide a new purified chemical reagent with which to investigate these questions.

Using monoclonal antibodies, Dr. Berzofsky is studying the antigenic sites on myoglobin, an oxygen-binding protein found in muscle. He has identified binding sites in which amino acids not close together on the backbone are brought together by the folding of the protein in its native three-dimensional shape.

Using 3-D projection of computer-generated myoglobin models, these "topographic antigenic determinants" could be seen, including one with a concave area in the protein's surface into which a convex portion of the antibody could fit.

Dr. Michael Potter, chief, Immunochemistry Section, Laboratory of Cell Biology, NCI, is using this powerful research tool to see where specific antigenic determinants are on the surface of a family of mouse antibodies that all bind the same antigen (the galactan-binding myeloma proteins).

By projecting 3-D images of these proteins, Dr. Potter demonstrated how an anti-idiotypic antibody—one that recognizes the antigenically unique features on another antibody—can distinguish between two galactan-binding monoclonal antibodies on the basis of a single amino acid change. The anti-idiotypic antibody was shown to also have an affinity for the environment around the antigenic determinant.

One possible clinical use of monoclonal antibodies is to specifically suppress an individual's immune response to foreign antigens on a transplanted organ while leaving the rest of the immune system in-

tact to protect the body.

Dr. David H. Sachs, chief, Transplantation Biology Section, Immunology Branch, NCI, described his studies in this field. He has found that if another species of animal is immunized with a monoclonal antibody that recognizes mouse histocompatibility antigens, the animal will make an antibody (an anti-idiotypic antibody) with a binding site that mimics, in some way, the original antigen.

When this anti-idiotypic antibody is then injected into a mouse, it produces antibody as though it had seen the original antigen. These studies suggest that it may one day be possible to use anti-idiotypic reagents to specifically manipulate the immune response and block responses against transplantation antigens.

Other potential diagnostic and therapeutic uses for monoclonal antibodies were discussed by Dr. Anthony Fauci, chief of NIAID's Laboratory of Immunoregulation.

Using commercially available monoclonal antibodies that recognize different functional subsets of T lymphocytes (the thymus-derived cells that mediate cellular immune reactions), scientists have been able to identify types of cellular defects seen in various diseases. This should be of great diagnostic value.

Dr. Fauci has produced a heterohybridoma—by fusing human B cells (bone marrow derived cells that make antibodies) with mouse myeloma—that is producing monoclonal human antibody without any contaminating mouse proteins.

This proves the feasibility of producing antibodies to any antigen with which one could immunize a human, and then using them either to protect someone who lacks that antibody or to eliminate a particular cellular component or tumor.

Dr. John D. Minna, chief, NCI-Navy Oncology Branch, NCI, delineated the potential clinical applications of monoclonal antibodies in the diagnosis, staging, and treatment of cancer. His laboratory has developed monoclonal antibodies that can distinguish between the four major types of human lung cancer.

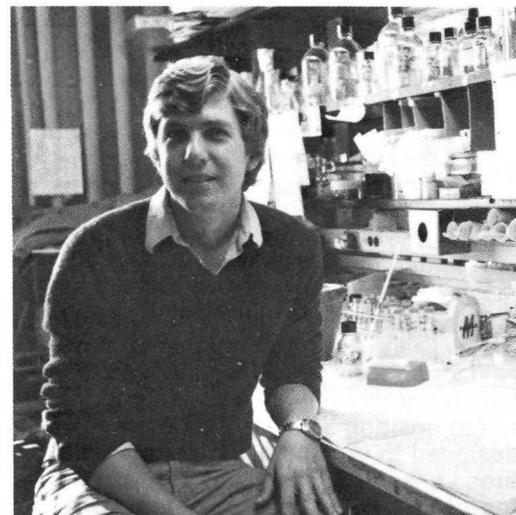
Since 80 percent of patients die within the first year of this disease, and since there are major treatment differences between each type of lung cancer, these reagents should be of great use in the early selection of appropriate therapy.

Dr. Minna has also found a heterogeneity in antigenic expression in tumors; in some, 99 percent of the tumor cells express the antigen while in others, only 10 percent may. This indicates the need to use specifically "mixed" cocktails of monoclonal antibodies to react with every bit of a tumor.

His group is also working on ways to remove tumor cells from patients and screen them for sensitivity to chemotherapeutic drugs as well as to monoclonal antibodies.

—Bobbi Bennett □

FAES Graduate Student Wins Best Dissertation Award



Dr. Hieter has been doing research work for the past 2 years under the preceptorship of Dr. Leder, NICHD, in the Laboratory of Molecular Genetics.

Dr. Philip Hieter, a participant in the FAES-Johns Hopkins University cooperative graduate program in the biomedical sciences on the NIH campus, has been awarded the 1981 Dissertation Prize by the Council of Graduate Schools. He was cited for his work in biological sciences.

The University Microfilms International-Council of Graduate Schools 1981 Dissertation Prize and \$1,000 was presented to Dr. Hieter on Dec. 3 for his paper, Evolution and Expression of Human Immunoglobulin Light Chain Genes. The paper describes how genes encode antibody molecules and how they are expressed during development.

The research work was done in Dr. Philip Leder's Laboratory of Molecular Genetics, where Dr. Hieter worked in collaboration with Dr. Thomas Waldmann, Metabolism Branch, NCI.

Dr. Hieter, a former graduate student at Johns Hopkins, received his doctorate in biochemistry, and was enrolled in the Foundation for Advanced Education in the Sciences and Johns Hopkins University's department of biology cooperative graduate student program.

The cooperative graduate student program has existed for over 10 years. Students spend their first 2 years at Johns Hopkins and do their research program on NIH campus with a preceptor.

Currently, there are 10 students enrolled in the program, and one or two new students are selected each year. Funds are available for much of the costs of the program for each student. □

Booklet Is Available For FAES-Hopkins Program

A booklet describing the FAES-Johns Hopkins cooperative graduate program is available from FAES, Bldg. 10, Rm. B1L-101, 496-5272. The next application deadline for the 1982-83 academic year is Mar. 15.

DR. SOKOLOFF

(Continued from Page 1)

senile dementia," the citation continues.

Dr. Sokoloff is quick to note that he shares his excitement and success with the large number of colleagues with whom he has worked since coming to NIMH in 1953. The author of more than 200 scientific articles, he listed seven collaborators in the key paper that, in 1977 in the *Journal of Neurochemistry*, spelled out the theory and the technique of mapping brain glucose metabolism.

That paper, which marked the culmination of a career-long search for a method of identifying parts of the brain associated with given sensory or cognitive functions, has prompted hundreds of scientists from around the world to visit his lab to learn the technique.

Dr. Sokoloff, who is chief, Laboratory of Cerebral Metabolism, Mental Health Intramural Research Program, stresses that the theory and the basic technique are his contributions to current applications of brain scanning, and he dissociates himself from that spin-off of his work.

The notion of localized measurement of brain function has been around for a number of decades as has much of the technological apparatus needed for such measurement. But the actual measuring tool—a means of measuring local metabolic activity levels without either losing specificity or damaging the brain—was not available to researchers.

The search began in the late 1940's when as an Army medical corpsman Dr. Sokoloff was assigned to neuropsychiatry service. There, he became convinced that psychiatric disorders entailed physiologic and biochemical anomalies in the brains of patients.

When he left the Army, he joined Dr. Seymour Kety at the University of Pennsylvania to attempt to measure metabolic processes in the brain along with cerebral blood flow. That research strategy, while useful for other purposes, was too imprecise for Dr. Sokoloff's requirements.

Four years later, he again joined Dr. Kety, this time at the Laboratory of Neurochemistry which was then a joint program of the NIH Neurology and Mental Health Institutes and the search was renewed. Over the next 15 years, it was to involve collaborations with various scientists in specialized fields, and a year of intensive study of enzyme kinetics in Paris.

Developed Formula in 1971

In 1971, working with NIMH researchers Charles Kennedy, Michel Des Rosiers, Jane Jehle, and later, Osamu Sakurada, Mami Shinohara, Clifford Patlak, and Karen Pettigrew, Dr. Sokoloff developed the formula that allows measurement of local metabolic processes with a radioactive-labeled analog of glucose.

Unlike glucose, which dissipates quickly in the living brain, the analog, deoxyglucose, only metabolizes to a specific breakdown level and then collects at those sites in the brain where it is utilized.

The label, still emitting radioactive tracers, pinpoints precise areas of the brain that are working as the subject—animals, or in later applications of the work, humans—performs specific motor or cognitive tasks.

Dr. Sokoloff presented the method at the 1974 meeting of the American Society of Neurochemistry which opened vast new fields of brain research.

Now, after several honors and awards for the work, members of Dr. Sokoloff's laboratory are developing corresponding methods for other metabolic processes, for example, measurement of rates of protein synthesis. Still, he looks back on the work in the early 1970's with special fondness.

"We knew we were on to something, and the anticipation charged the entire lab with a special sense of excitement and camaraderie. The aftermath of success, the honors, are pleasant but don't compare to that feeling of being on the edge," Dr. Sokoloff said. □

Dr. Karl Habel Dies; Was Virology Authority



Dr. Karl Habel

Dr. Karl Habel, a former chief of NIAID's Laboratory of Infectious Diseases and also the Laboratory of Biology of Viruses, died Nov. 20 following a heart attack. He was 73.

Well-known for his research in virology, Dr. Habel was an authority on rabies, and was associated with the World Health Organization. His achievements in basic viral research contributed significantly to the development of rabies, polio, and mumps. He was also an early supporter of the concept that immunity played a role in cancer.

Dr. Habel, who joined NIH in 1938, was awarded the PHS Distinguished Medal in 1966 for his contributions in viral research. He was also honored by his peers in being selected to deliver the R.E. Dyer Lecture at NIH in 1966. He retired from NIH in 1967.

Elected to the National Academy of Sciences in 1968, he also served as editor of *Virology* and *Proceedings of the Society for Experimental Biology and Medicine*.

Dr. Habel is survived by his son, Kurt, a daughter, Mrs. Gretchen Hill; a sister, Claire Piltz; and 5 grandchildren.

Mrs. Beveridge Is New Committee Management Officer

Betty J. Beveridge has been appointed NIH committee management officer, replacing Suzanne L. Fremeau, who died recently after a long illness.

In her new position, Mrs. Beveridge acts as the primary liaison between NIH, the Department's CMO, and the HHS Secretary's office in managing the many components of NIH's peer review system, which examines and evaluates research grant applications for scientific merit and significance.

Located in the Office of the Deputy Director, NIH, the CMO handles all the administrative duties involved in NIH's "dual review system" of councils, boards, scientific counselors and study sections.

There are 145 public advisory committees with a total of 2,400 members drawn from both the scientific and lay communities. Approximately one-quarter of the members go off the rolls annually.



As NIH committee management officer, Mrs. Beveridge coordinates all the administrative details of the peer review system.

The office processes 600 membership nominations per year for the various staggered terminations of the 4-year positions.

Names are taken from the computerized NIH consultant file which lists 15,000 eligible candidates. Members are selected according to geographic location and distribution, age, ethnicity, and sex. There are many other criteria for nominee selection the office must adhere to by law.

Every 2 years, committee charters must be renewed. There are approximately 84 renewals to be done annually. As CMO, Mrs. Beveridge will coordinate all these activities. She will be assisted by Phebe Dunn in administrative duties and other areas, including publication of the bi-annual *Public Advisory Groups*. □

We must take life as we find it and improve it as we can.—Lloyd Garrison □

NIA Grantee Continues Research at Age 90

Dr. David Bruce Dill, who at age 90 is conducting research on thermoregulation in Nevada's Mohave Desert, personifies the National Institute on Aging's mission to extend the healthy and productive years of life.

To honor Dr. Dill for his contributions to aging research, NIA Director Dr. Robert N. Butler gave him an engraved plaque at a recent meeting of the Institute's Advisory Council.

Before receiving the award, Dr. Dill described for the council members his research on the effects of exercising in desert heat. The studies have received 9 years of grant support from the NIH, including 5 from the NIA.

Dr. Butler noted that the descriptive data Dr. Dill is gathering on the combined stresses of heat and exercise in people of different ages, sexes, and races are adding important information to knowledge about heat tolerance.

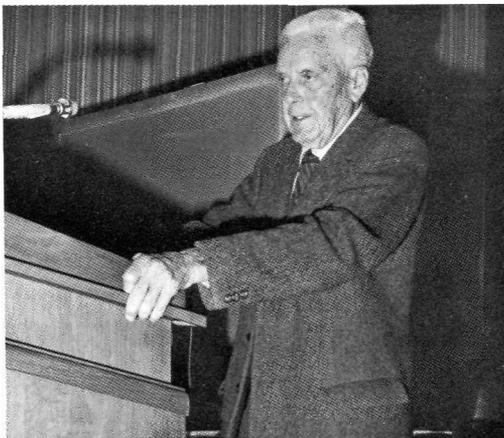
Dr. Dill has had a long and distinguished career, including 36 years of research on the physical chemistry of blood proteins and on exercise physiology at Harvard's Fatigue Laboratory and at Massachusetts General Hospital.

In 1961, at age 70, he retired from Harvard and went to the University of Indiana. After 5 years there, he retired again and joined the University of Nevada's Desert Biology Research Center where he conducts his current studies.

Among his contributions to medicine are a description of the oxygen-dissociation curve, fundamental studies of acid-base balance, and artificial respiration techniques.

Dr. Dill's current findings indicate that good conditioning improves the body's ability at all ages to withstand the combined stresses of heat and exercise. The research subjects are healthy, physically fit adults of different ages.

Information is obtained about their exercise history, diet, smoking habits, and



Dr. Dill describes his research on the effects of exercising in desert heat. The study is expected to show how physical conditioning may alter tolerance to heat and exercise and, possibly, the rate of aging itself.

lifestyle. Each volunteer then completes an 8-week fitness program consisting of walking and jogging for 15 minutes four times a week. Selected individuals complete an additional training program, which is followed by the study itself.

Before the study begins, each participant is given an aerobic capacity test on a bicycle ergometer. Then he or she completes three desert walks (or runs) around a 421-meter track.

At one point during each walk, the volunteer steps on a treadmill while measurements of heart rate and various metabolic functions are obtained. In this manner, a variety of data can be collected before, during, and after each walk.

Dr. Dill attributes his own vigorous longevity mostly to his genes. But he maintains that he has always been very active in sports, still walks a mile every day, bowls regularly, and keeps his weight down.

"There is no doubt in my mind," he says, "that exercise is advisable throughout life." □

Visiting Scientist Program Participants

Sponsored by Fogarty Internat'l Center

10/23—Dr. David Foxall, England, Developmental Pharmacology Branch. Sponsor: Dr. Jack Cohen, NICHD, Bg. 2, Rm. B208.

10/26—Dr. Carmelo Bruni, Italy, Laboratory of Biochemical Pharmacology. Sponsor: Dr. Matthew Rechler, NIADDK, Bg. 4, Rm. B1-14.

10/26—Dr. Manabu Mochizuki, Japan, Laboratory of Vision Research. Sponsor: Dr. Jin Kinoshita, NEI, Bg. 6, Rm. 22A.

10/26—Dr. Geoffrey Schofield, England, Laboratory of Preclinical Studies. Sponsor: Dr. Forrest Weight, NIAAA, Flow Laboratories, Room 55C.

10/26—Dr. Shui-mei Wang, Taiwan, Laboratory of Carcinogen Metabolism. Sponsor: Dr. Larry Keefer, NCI, Bg. 37, Rm. 1E22.

10/26—Dr. Ana Maria Diaz-Primerano, Argentina, Laboratory of Immunogenetics. Sponsor: Dr. John Coligan, NIAID, Bg. 8, Rm. 100.

10/26—Dr. Roelf Groenhuis, The Netherlands, Diagnostic Systems Branch. Sponsor: Dr. Richard Webber, NIDR, Bg. 10, Rm. 5N256.

10/27—Dr. Wang Zhen, China, Bureau of Biologics. Sponsor: Dr. Chi-Jen Lee, BB, Bg. 29, Rm. 403.

10/28—Dr. Wang Li-Ya, China, Division of Bacterial Products. Sponsor: Dr. John B. Robbins, BB, Bg. 29, Rm. 122.

10/28—Dr. Hirohiko Nakamura, Japan, Surgical Neurology Branch. Sponsor: Dr. Paul Kornblith, NINCDS, Bg. 10A, Rm. 3E68.

10/29—Dr. Angenietje Feenstra, The Netherlands, Medicine Branch. Sponsor: Dr. Marc Lippman, NCI, Bg. 10, Rm. 12C205.

10/29—Dr. Ami Vonsover, Israel, Laboratory of Biology of Viruses. Sponsor: Dr. Norman Salzman, NIAID, Bg. 5, Rm. 326.

11/1—Dr. Elisabetta Ciro, Italy, Cardiology Branch. Sponsor: Dr. Barry Maron, NHLBI, Bg. 10, Rm. 7B15.

11/1—Dr. Preeti Gangola, India, Laboratory of Preclinical Studies. Sponsor: Dr. Forrest Weight, NIAAA, Flow Laboratories, Rm. 55C

11/1—Dr. Gerard Groos, The Netherlands, Clinical Psychology Branch. Sponsor: Dr. Frederick Goodwin, NIMH, Bg. 10, Rm. 4S239.

ANTIBODIES FROM CHIMPANZEES MAY BE POTENTIAL CANCER WEAPON

(Continued from Page 1)

new therapy utilizes antibodies produced by the immune system of chimpanzees in response to antigens removed from the surface of human cancer cells.

Antigens are present on all cells. They are markers that allow the immune system to tell the difference between body cells, which do not present a threat, and foreign materials, which do.

Because of the apparent similarity of the antigen systems, the antibodies produced by a chimpanzee to human cancer cells are almost identical with the antibodies that the immune system of a healthy human would manufacture against the same cancer cells.

Like human antibodies, chimpanzees' antibodies are programmed by their immune system to attack a particular virus, bacteria, or other disease causing organism. Thus, when immunized with antigens from the melanoma or other hu-

man cancer cells, the chimpanzee's immune system produces antibodies which react only to that form of cancer.

"The chimpanzees do not develop cancer when they are injected with human cancer antigens," Dr. Metzgar points out. "But their bodies' immune system strongly reacts by producing antibodies against human cancer."

The researchers extract these anticancer antibodies from the chimpanzees' blood serum and study them as tools for the diagnosis and treatment of human cancers.

Dr. Seigler conducts the diagnostic test in Duke University laboratories. Tumor cells taken from human patients are exposed in the laboratory to chimpanzee blood serum containing anticancer antibodies. Using a variety of laboratory tests, he can determine if the chimpanzee's anti-melanoma antibodies bind to the patient's

tumor cells. If this binding reaction occurs, it indicates that the patient's tumor cells are melanoma.

Using chimpanzee anticancer antibodies to treat human patients with leukemia, melanoma, lymphoma and pancreatic cancer is the focus of Dr. Metzgar's research, which like Dr. Seigler's work, is conducted at both Yerkes and Duke University.

Dr. Metzgar theorizes that the anticancer antibodies, once injected into the human body, could be capable of searching out and destroying cancer cells in a human patient without harming the patient's healthy cells.

The scientists are culturing several types of mouse hybridomas from which a variety of anticancer antibodies are being harvested. Each will be tested in chimpanzees before clinical use begins. Some tests have already started. □

Schizophrenic Behavior Subject of MFL Lecture

Despite the popular misconception, schizophrenia does not involve multiple personality, according to Dr. Daniel van Kammen, speaking at a recent Clinical Center's Medicine for the Layman lecture.

Dr. van Kammen is chief of the CC's schizophrenia research unit and chief of the section on neuropsychopharmacology, Biological Psychiatry Branch, National Institute of Mental Health.

Schizophrenia is a brain disorder that causes disturbances in perceptions, thinking, feelings, and social functioning, and often involves hallucinations and delusions.

Schizophrenics may see things that are not there, or hear sounds or voices that do not exist.

Thought disorders are also common and include the perception that one's thoughts are being removed or controlled by an outside force; the belief that thoughts are being broadcast from one's head; or the belief that thoughts are not one's own.

Behavior is sometimes marked by unrelated ideas. This may lead to overly vague or overly abstract speech, or speech that is nonsensical.

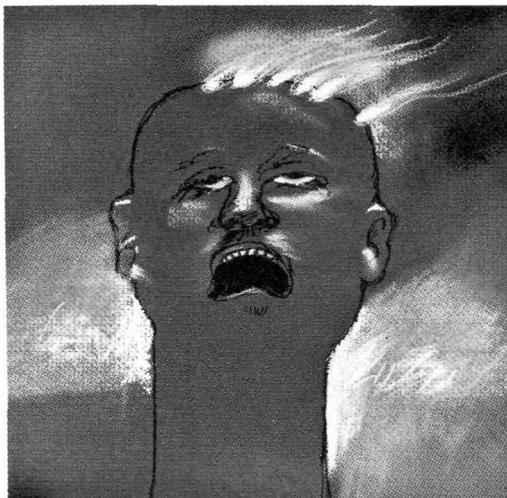
While it has long been understood that there is a strong genetic component involved in schizophrenia, how the disorder is genetically transmitted remains unclear. Although 1 to 2 percent of the population is diagnosed as schizophrenic, 10 percent of first-degree relatives of schizophrenics are at risk.

If schizophrenics marry each other, 40 percent of their children will have the disorder. Three percent of uncles, aunts, nieces, and nephews of schizophrenics can also be affected.

Studies of identical twins, who share the same genetic material, show that if one twin is schizophrenic, the other has a 50 percent chance of having the disorder. Fraternal twins have about the same risk as other first-degree relatives.

Environment also seems to be a factor in the disorder. Developmental stresses can be brought on by a major change—such as a move, going to college, or going into military service.

Recent advances show that there is an increased amount of dopamine activity in



Some schizophrenics may think that their skin is burning or crawling with bugs.

the brains of schizophrenics. (Dopamine is a chemical substance found in all brains.) A number of antipsychotic drugs, including Thorazine (chlorpromazine) have been found to block or decrease dopamine activity—and are used as an effective treatment of schizophrenia.

Although there are some untoward side effects to these drugs (such as shakes, rigidity, blurred vision, and involuntary movements), they are probably reversible. About 95 percent of schizophrenics can be treated with drugs with some degree of success.

A 12-bed clinical research unit is maintained in the CC, where medications are evaluated under carefully controlled conditions.

CAT scans and PETT scans are also being used to determine brain abnormalities and their effect on schizophrenia.

Because the brain is difficult to study, substances found in other parts of the body are being studied in the hope that their levels can be related to brain disorders. They include peptides and amino acids found in the blood, urine, and spinal fluid.

Heart rate, skin resistance, and eye movement are also being studied as markers of the action by some chemicals affecting brain function. □

Pneumonia Agent Identified In Goat Kids by NIEHS

A cause of clinical pneumonia in goats from the United States has been specifically documented to be from infection by the microorganism *Mycoplasma mycoides* subspecies *mycoides* (large colony type).

Researchers from the National Institute of Environmental Health Sciences and Duke University made this observation in a Toggenburg goat kid suffering from pneumonia. Three kids from a research herd of approximately 100 Toggenburg goats were involved.

The agent was isolated in pure culture from the animal's lungs and identified as

M. mycoides subspecies *mycoides* (large colony type), which was verified at NIH and confirmed as the large colony type by Commonwealth Scientific and Industrial Research Organization in Australia.

Researchers were Dr. Julius E. Thigpen and Vivian Thierry, of the NIEHS Comparative Medicine Branch; and Drs. R. W. Kornegay, J. Change, and C. E. McGhee, division of animal resources, Duke University Medical Center. The Comparative Medicine Branch is devoted to maintaining the quality and health of animals used in research and their care, handling, and humane treatment. □

Dr. Roger M. Cole Retires From 32-Year NIAID Career

Dr. Roger M. Cole, chief of the Laboratory of Streptococcal Diseases, National Institute of Allergy and Infectious Diseases, retired Nov. 1 after 32 years of Federal service—all with NIAID in Bethesda.



Dr. Cole

and its sequelae such as rheumatic fever and nephritis.

Based on his observations of streptococci, Dr. Cole developed widely accepted theories on the possible modes by which new cell wall is formed in growing bacteria.

He and his colleagues conducted many other studies of strep, including such "firsts" as investigations of bacterial phages that affect streptococci, and demonstrated that phage-mediated transduction supplied the only means known (at that time) for genetic transfer among streptococci-causing human diseases. These studies open new pathways for exploring aspects of streptococcal pathogenicity.

In recent years, in addition to providing many contributions to the ultrastructure of microorganisms, Dr. Cole was instrumental in defining a vast new group of mycoplasmas (wall-less bacteria) and in discovering their viruses and plasmids.

In 1971, Dr. Cole was awarded the PHS Meritorious Service Medal for "leadership in basic research on the microbial causes of disease, and his outstanding investigations on the characterizations and functions of bacterial ultrastructures."

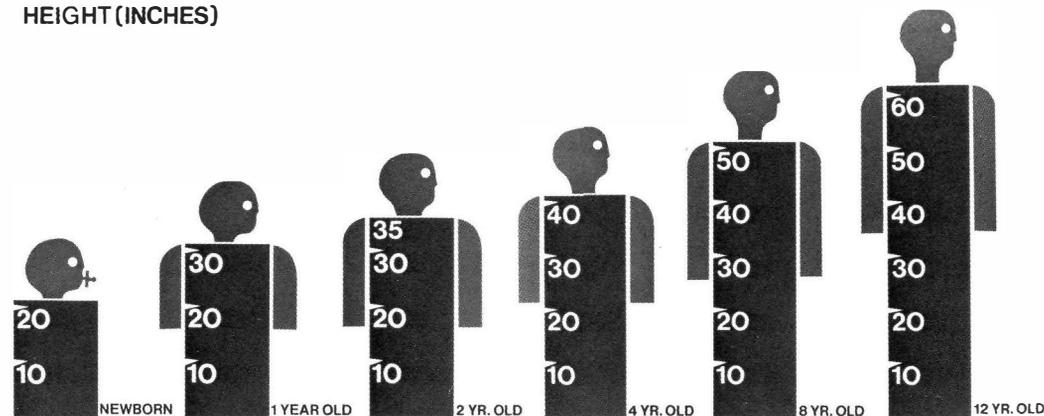
In conjunction with other prominent scientists, he was a founder and former president of the NIH-administered Foundation for Advanced Education in the Sciences, and played a role in establishing the teaching activities of this organization.

After earning his Ph.D. from Harvard and M.D. from Boston University, Dr. Cole joined PHS and came to Bethesda in 1949. He began his long association with NIAID as an epidemiologist and made early contributions to an understanding of sarcoidosis and herpangina (a coxsackievirus disease of children.)

In 1951 he became chief of the respiratory bacteriology unit within the Laboratory of Infectious Diseases and was later made assistant chief. He was also head of the Bacterial Structure and Function Section, and chief of the Laboratory of Microbiology. During an Institute reorganization in 1973, the Laboratory of Streptococcal Diseases was established and Dr. Cole named chief. □

Human Growth Hormones Discussed by Dr. B. Bercu

HEIGHT (INCHES)



The average newborn measures approximately 20 inches. In most children, height increases 10 inches the first year, 5 inches the second year, and 2-1/2 inches each succeeding year until adolescence.

Children grow at different rates. This is normal and to be expected, and the differences are never more apparent than during puberty.

Some adolescents seem to tower over their classmates while others take the front row for class pictures so they won't be lost behind their peers. Although the differences are most exaggerated during these years when development occurs in rapid growth spurts, growth rates vary throughout childhood.

These variations are normal for the most part, but occasionally growth may be impeded or accelerated beyond the established range of normal. What is too tall? What is too short? What should parents and pediatricians be alert to in assessing children's growth?

These were the questions Dr. Barry Bercu addressed in his Medicine for the Layman talk Nov. 10. Dr. Bercu is the head of the pediatric endocrine unit, Neonatal and Pediatric Medicine Branch, NICHD.

He explained how the endocrine system regulates growth and discussed how parents and pediatricians can be aware of possible developmental problems. The endocrine glands, such as the pituitary, thyroid, adrenals and gonads (ovaries and testes) produce hormones that directly or indirectly affect height, weight, and sexual maturation.

These hormones are secreted into the bloodstream and circulate to their "target organs" where they regulate cellular activities involved in growth. Operating on the same principle as a thermostat in raising or lowering room temperature, an endocrine "feedback system" functions to reduce hormone production and secretion when the substance reaches a certain level in the blood and increase it again when the level falls.

Focuses on Action of hGH

To illustrate the role of hormones in growth, Dr. Bercu focused on the action of human growth hormone (hGH), which is produced by the pituitary gland. A part of the brain called the hypothalamus, which sits directly above the pituitary, produces a chemical substance that signals the pituitary to produce or release hGH.

The secreted hormone travels to the

liver, its target organ, and induces production of another hormone called somatomedin.

Somatomedin in turn acts on the growth plate centers at the ends of long bones to stimulate bone growth. With this, the bones lengthen and height increases.

Growth Problems Can Arise

Problems can arise at various points in the system, however. For example, overproduction of hGH due to a pituitary tumor can cause too much growth, resulting in gigantism. Conversely, if the hormone is produced in insufficient quantity or not at all, dwarfism results.

Other problems, such as malnutrition, major organ disease or other chronic illness, emotional deprivation, or chemical defects at the cellular level can also impede normal growth.

Based on studies of large numbers of children, scientists have compiled data on normal growth patterns. Expressed in growth charts, the data can be used by pediatricians to trace children's growth progress and determine if they are within the normal, or expected range of height and weight at a particular age.

For the 2 percent of children who do not measure within this range, the pediatrician and pediatric endocrinologist try to determine whether the child's development is normal or abnormal.

Growth is seasonal and children grow more rapidly from spring to summer than in fall and winter. Thus, at least 1 full year of measurements is needed to collect reliable data. Growth is influenced by genetics as well. Tall parents tend to have taller children, and the reverse is true for short parents.

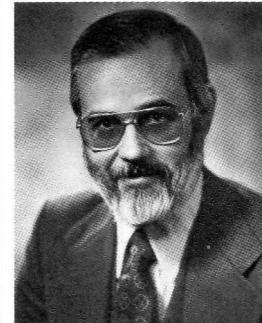
DNA Use Can Produce Hormone

Research is under way to treat many growth abnormalities. Perhaps the most exciting recent development is the use of recombinant DNA technology to produce human growth hormone which, until recently, was available only from cadavers and thus in extremely short supply.

Production of this hormone in large amounts will bring down the cost of treatment considerably and open the possibility of therapy for many children who might benefit from it. □

Dr. Fischinger Named NCI Associate Director

Dr. Peter J. Fischinger has been named an associate director of the National Cancer Institute. He will advise the NCI Director on scientific developments across the spectrum of cancer research, and oversee the operations of the Frederick Cancer Research Facility.



Dr. Fischinger

A government-owned facility with a multifaceted mission, FCRF has been operated over the past 9 years by a single contractor. The contract is now being revised for multicontractor participation with a workscope divided into five parts—to encourage competition by firms qualified to manage different aspects of the facility.

Dr. Fischinger will serve as the key NCI contact on FCRF policies and as coordinator for NCI staff and laboratory relocations to FCRF.

He also will organize seminars to examine cancer research developments and needs, and will help determine priorities for allocating additional resources, or phasing out specific research.

Dr. Fischinger joined NCI in 1966. He traveled to Germany in 1970 as a visiting scientist at the Max Planck Institut für Virusforschung in Tübingen. After his return to NCI the following year, he became chief of the Virus Control Section and associate chief of the Laboratory of Viral Carcinogenesis.

In recognition of his leadership in viral oncology research, Dr. Fischinger, who has authored over 100 scientific papers relating to that field, was awarded a PHS Commendation Medal in 1977.

He has served on the International Scientific Exchange Committee on Cancer Research, and on the Virus Cancer Program Resources and Logistics Executive Committee.

A graduate of Loyola University, Dr. Fischinger received an M.D. and also a Ph.D. in microbiology from the University of Illinois. □

County Action May Affect NIH Day-Care Programs

Before and after school care for children of NIH employees has been jeopardized by the decision of the Montgomery County Public School Board of Education to close the Ayr lawn Elementary school.

Ayr lawn's closing may have a major impact on the availability of day-care for 5 through 12-year old children in the Bethesda area.

Any suggestion for alternate locations for the Ayr lawn program are welcomed. Anyone interested in helping resolve this crisis can call Sherrie Rudick, 496-5144, or Anne Schmitz, 530-5550. □

☆ U.S. GOVERNMENT PRINTING OFFICE: 1981—341-134/7