

The NIH Record

Vice President Bush Visits Clinical Center, Gets AIDS Update From Experts

Vice President George Bush paid a surprise call on the Clinical Center Apr. 8, spending an hour and a half learning about AIDS from physicians and patients and fielding questions from a large media turnout.

"This has been a fantastic educational experience," said Bush after touring NCI labs and being briefed by members of NIH's AIDS Executive Committee. "You're doing the Lord's work to fight this disease."

Fifty reporters and eight television camera crews were among the audience that packed the CC's 11th floor solarium for a briefing led by Dr. James Wyngaarden, NIH director. In quiet, measured tones, Wyngaarden gave Bush a synopsis of NIH involvement in the fight against AIDS. He was followed by NIAID Director Anthony Fauci, who told Bush that AIDS attacks patients' T cells, "the Defense Department of the body." Dr. Flossie Wong-Staal of NCI briefed Bush on the natural history of HIV—the virus that causes AIDS.

"If there is a silver lining in AIDS, it is that it hit us now rather than 30 years ago," said Wong-Staal, emphasizing recent strides made in knowledge of retroviruses, of which HIV is an example. Two bottlenecks face current efforts to create an AIDS vaccine, she said: the genetic variability of AIDS isolates and the unavailability of an appropriate animal model.

"I must say I'm most impressed with what I've seen in the short time I've been here," Bush said. "I sense a certain optimism in the long run. Dr. Wyngaarden's assurances on the safety of the blood supply is good news for this country."

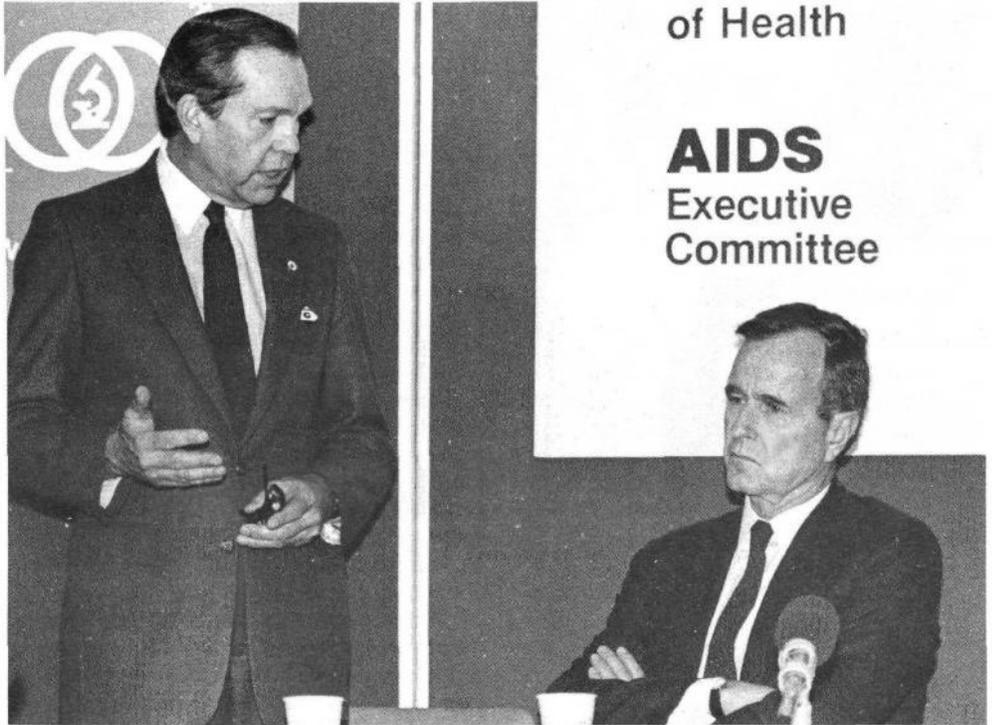
Bush described AIDS as both a moral and medical problem. "I'm deeply troubled by some of the moral aspects of it and clearly troubled by the medical aspects," he said. Pressed by a reporter to be more specific about his moral qualms, Bush cited dirty syringes used by drug abusers as a prominent avenue of AIDS infection.

Asked why he chose to visit NIH, Bush said, "The more exposure this heroic work can get, the better it is for the American people."

Bush said he was heartened that a "good network" of international cooperation exists in the fight against AIDS, noting briefly that French Prime Minister Jacques Chirac had recently met with President Reagan to discuss the amicable settlement of a patent dispute between French and American authorities over an AIDS antibody test.

"We've got global responsibilities in this battle," he said.

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NIH Director James Wyngaarden (l) reviews the history of AIDS research for Vice President George Bush at a briefing Apr. 8 in the Clinical Center. Bush also met an AIDS patient and toured NCI laboratories.

AIDS From Blood Transfusions; 'Same Odds As Lightning Striking,' Says Klein at Grand Rounds

By Anne Barber

"The risk of getting AIDS through a blood transfusion today compares with the odds of being struck by lightning," says Dr. Harvey G. Klein, chief, Department of Transfusion Medicine, Clinical Center.

"There are 18 million donations of blood and blood components made each year," he said. "In 1984, it was estimated that 0.04 percent of blood donors might be carrying the virus but in fact, fewer than 10 percent of the predicted number of blood recipients have developed AIDS."

At CC grand rounds recently, Klein reported that 1 to 2 percent of all AIDS cases are transfusion related. However, transfusion is a factor in 10 percent of all AIDS cases in women and in about 13 percent of all cases of AIDS in children.

In 1982, the first evidence was presented that suggested human beings receiving blood transfusions could develop AIDS. In 1984, the CC began several studies on the subject. Dr. Harvey J. Alter, chief of DTM's Immunology Section, had for more than 15 years saved blood

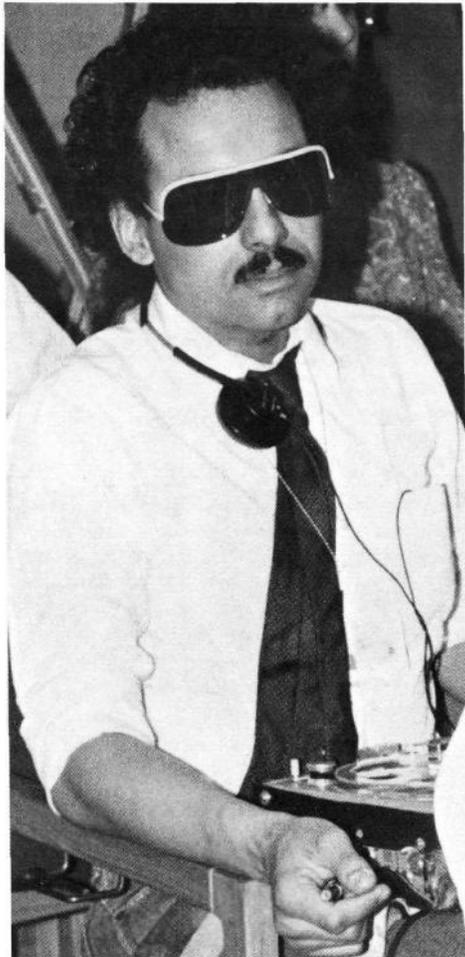
specimens from persons receiving transfusions here at NIH. He had samples of their blood before surgery and at specific intervals following surgery.

When the anti-HIV (human immunodeficiency virus) test (a test for exposure to the virus associated with AIDS) became available, Alter checked his samples and found that two CC donors turned out to be positive. Samples from recipients of these units also tested positive, indicating infection. The department then went back and traced the patients who had previously received blood components from these donors.

One patient had been diagnosed as having T-cell leukemia and received 33 donor-exposed transfusions with one containing HIV. The patient went on to receive chemotherapy and his leukemia went into remission. But, in 1985, he was diagnosed as having AIDS.

A second patient who had open heart surgery received blood donated by the same donor. This patient had nine donor exposures includ-

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A radio reporter for ABC News waits with tape recorder at the ready for the vice president's briefing.

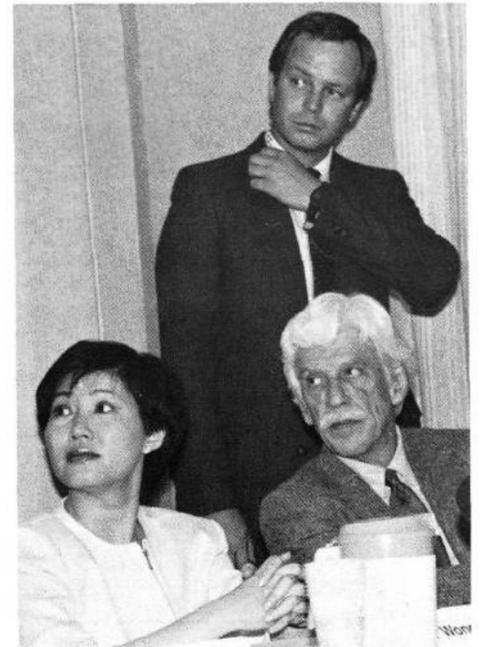
BUSH (Continued from Page 1)

Though Bush only stayed on campus for about 100 minutes, his visit tested NIH's ability to manage a major media event. Notified just 48 hours prior to Bush's arrival, employees scrambled to prepare. The CC Housekeeping Department rushed to clean the floors Bush would visit, advance men from both Bush's staff and the Secret Service scoured each room, and a bomb-sniffing German shepherd dog rummaged through all press equipment prior to the briefing. Brown-blazered Secret Service agents wearing earphones eyed the reporters just as warily as the reporters eyed Bush.

"It began as an educational event and ended as a press event," said Thomas Flavin, NIH special projects officer. Flavin and his staff got high marks from the visiting officials for the quality of their preparations. About the only guff NIH took was from TV technicians frustrated about the long time they spent on the 11th floor waiting in a small, hot room for the vice president.

"There's a big auditorium downstairs isn't there?" grouched one technician. Another tech, clearly a veteran of wearisome assignments, used the hiatus to borrow an NBC radio reporter's cellular phone and call his stockbroker.

It is probably just as well that NIH learn now to adapt to visits by national leaders and reporters—President Reagan may be here in October for the close of the centennial. □



All eyes were on the door as Vice President Bush arrived for his AIDS briefing. Attendees included Dr. Flossie Wong-Staal of NCI (l), Dr. Joseph E. Rall, NIH deputy director for intramural research, and an unidentified Secret Service agent (adjusting his earphone).

The NIH Record

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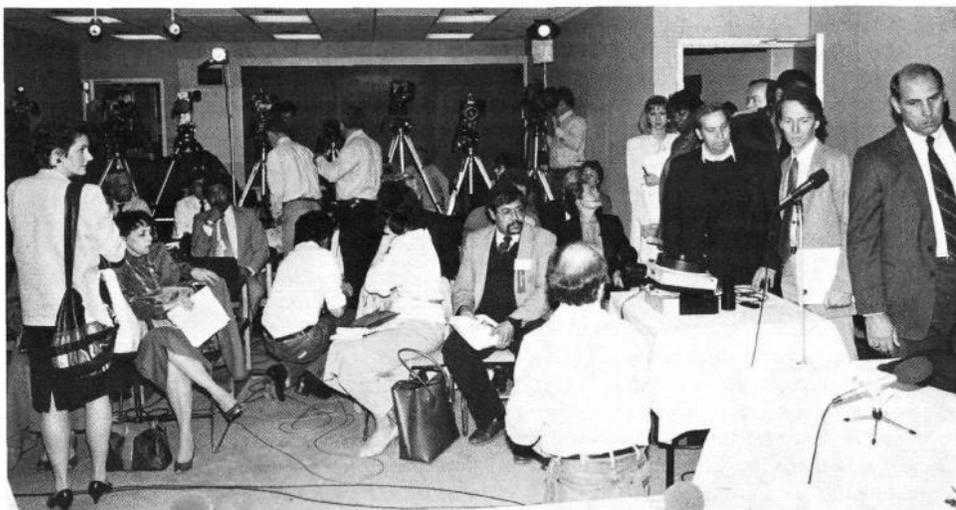
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Members of the media packed the 11th floor solarium in the CC for Vice President Bush's half-hour briefing with AIDS authorities at NIH. Fifty journalists covered the event.

Study Shows 'Orphan Drug' To Be Best Treatment For Metabolic Disorder Cystinosis

By Leslie Fink

A major study conducted in research hospitals and clinics across the United States has concluded that the drug cysteamine is "the current treatment of choice" for children who inherit the rare, metabolic disease cystinosis. Use of the drug represents the first effective therapy for any of the genetic disorders known as lysosomal storage diseases.

Success with cysteamine is also a coup for so-called "orphan" drugs. Like cysteamine, these chemicals are not usually profitable for drug companies to produce because they are used by only a small number of patients (fewer than 200,000) who suffer from extremely rare, or "orphan," diseases. About 1 in 200,000 babies born each year, or 200 children in the United States, have cystinosis.

According to a report in a recent *New England Journal of Medicine*, oral cysteamine therapy begun early in life and continued for several years helps slow the kidney damage and improves the severely delayed growth that accompanies cystinosis.

"In very young patients treated with cysteamine for a year or longer, we believe the

drug may prevent kidney failure," says Dr. William Gahl, the NICHD research physician who reported the study results. In addition, "We have several 6- to 8-year-olds who've been treated for 4 to 6 years, and they are now growing normally for their age. That's unheard of in the history of cystinosis," says Gahl. Without the drug, a child with cystinosis would grow at about half the normal rate.

A child develops cystinosis when he or she inherits an abnormal gene from each parent. The faulty genes cause a defect in bag-like cell components known as lysosomes, which makes the lysosome unable to transport cystine across its membrane. Although harmless in normal cells, cystine in cells from children with cystinosis builds up to dangerous levels. When the overload occurs in cells of vital organs such as kidneys, it destroys them.

Malfunctioning kidneys in turn lead to loss of nutrients, dehydration, and abnormal blood chemistry. Nearly all children with cystinosis require kidney transplants by their 10th birthday, and many never reach adulthood.

The idea that the drug cysteamine might

help children with cystinosis came in 1976 when Dr. Jess Thoene, now at the University of Michigan, showed that cells taken from cystinosis patients lost cystine when treated with the drug in a culture dish. Later, Gahl and his coworkers discovered that such cells lack the carrier protein that takes cystine across the lysosomal membrane. The drug cysteamine, they found, converts cystine into molecules that use a different carrier protein to exit the lysosome.

Clinical testing of cysteamine started in 1978 as part of the ongoing National Collaborative Cysteamine Study, headed by Dr. Jerry Schneider at the University of California, San Diego. Support for the study has come from the NICHD, the NIDDK, and nonprofit organizations such as the March of Dimes and the Generic Pharmaceutical Industry Association Institute for Orphan Drugs. About half of all U.S. children with cystinosis participated in the study.

The researchers tested the drug's effectiveness by measuring how rapidly patients received

(See CYSTINOSIS, Page 4)

To Hear the Music of the Spheres, Use Molecular Ears

That old romantic cliché, "We could make beautiful music together," just might have been the motto of organic molecules $4\frac{1}{2}$ billion years ago at the birth of the solar system.

So theorizes Dr. Susumu Ohno, a scientist who demonstrated, on the eve of April Fools' Day, that there are parallels between classical music compositions and coding sequences in primordial DNA.

Speaking before a bemused and skeptical audience, Ohno said that by assigning musical notes to the four bases—adenine, cytosine, guanine and thymine—that make up DNA, something approximating a musical score results.

"I suppose you're interested in hearing what DNA music sounds like," he quipped prior to his talk.

A student of gene evolution from the Beckman Research Institute of the City of Hope, Duarte, Calif., Ohno said that the precursors of modern genetic life on Earth were organic molecules that comprised a sort of cosmic soup. These molecules somehow arranged themselves to form a kind of self-duplicating machine, with DNA as the programming software.

In the days before life arose, "prebiotic" synthesis occurred and ever more complicated proteins were constructed. Over the millennia, certain DNA coding sequences persisted in the life forms that arose. Ohno assigned musical notes and a position on the octave scale (do, re, me, fa, and so on) to repeating combinations of base sequences. Bases with a relatively heavy molecular weight were placed at the bass end of the scale while lighter molecules were positioned at the alto end. Thus sequences that read like nonsense in prose—ATTAGCCA, for instance—might translate musically into Mozart.

Ohno, whose mustache makes him look a bit like the late surrealist artist Salvador Dali, demonstrated his theories with the help of a portable cassette tape player. Primordial genes, when musically translated, sounded like the music of baroque composers. Genes from relatively more modern creatures sounded like the music of the romantic period, which succeeded the baroque.

The mouse RNA polymerase II molecule, said Ohno, is homologous to Chopin's "Nocturne." And the H1 histone of the rainbow

trout, "sounds like a trout, in a sense."

Trespassing beyond music into literature, Ohno said that a base sequence "can be regarded as a poem from another civilization, another planet." Creating a 16-letter alphabet that corresponded to repeating sequences, Ohno even forged crude poetry from peptides.

Returning to music at the end of his lecture, Ohno commented that potentially cancer-causing genes called oncogenes make a sad sound when musically transposed. On a sheet of paper he drew the base sequence for an oncogene, a series of descending notes. Observed one member of the audience, arbitrary selection of note values for base sequences could just as easily have resulted in oncogenes that produce a happy, upscale trill.

If a scientist were to transpose classical music back into base sequences, he or she would come up with "long, nice open reading frames," Ohno noted.

Skeptics in the crowd might have used a few base sequences of their own in evaluating Ohno's theories: "Get ATTA here." □

CYSTINOSIS*(Continued from Page 3)*

ing cysteamine grew and whether their kidney function had stabilized. These findings were compared with those from 55 cystinotic children who had received vitamin C or a similar substance as part of an earlier study of cystinosis therapies.

"Cysteamine improved growth within the first year of therapy and in all subsequent years," the report says. "The greatest effect was observed in children between 2 and 3 years of age." Those children, the report continues, grew at 93 percent of the normal rate.

The drug also stopped further damage to a part of the kidney known as the glomerulus. Thousands of these filtering devices in each kidney help rid the body of waste products.

By measuring a substance in the blood that tells how well the glomeruli are working, the researchers found that kidney function remained stable in the cysteamine-treated patients. But the drug did not reverse damage to the glomeruli that had already occurred.

The drug had no effect on a second kind of kidney damage, known as renal tubular Fanconi syndrome, in which the kidneys are unable to reabsorb needed nutrients. Because of this abnormality, children with cystinosis must continually take medications to replace these lost substances. "Cysteamine did not improve the symptoms of Fanconi syndrome in any child," the report says.

Tests done on white blood cells taken from the cysteamine-treated group showed that the drug reduced cystine buildup in these cells by about 82 percent. Gahl and his coworkers are optimistic that cysteamine will prevent cystine buildup when given to patients 1 year of age or younger.

This in turn will slow or stop kidney cell destruction and may prevent damage to the glomeruli. "Several cysteamine-treated children up to 10 years of age had entirely normal glomerular function, suggesting that [kidney damage] may be prevented indefinitely in a se-



NICHD's Gahl examines the eyes of a child with cystinosis.

lect group of patients treated early in life," the team reports.

Although cysteamine treatment appears to reduce kidney damage, oral doses of the drug did not affect damage to the patient's eyes. In the eye, cystine buildup in cornea cells causes pain and sensitivity to light. But in a study of 2 patients published in a March issue of the journal, Gahl and a National Eye Institute team headed by Dr. Muriel Kaiser-Kupfer reported that cysteamine-containing eye drops reduced cystine buildup in cornea cells of young children with cystinosis.

Until recently, all lysosomal storage diseases were thought to be caused by defective or missing enzymes necessary to break down sub-

stances within the lysosome. Cystinosis is the first lysosomal storage disorder shown to result from a defect in the system that shuttles substances out of the lysosome.

Gahl and coworker Dr. Martin Renlund recently added to this new category another storage disease called Salla disease. Prevalent mainly in Finland, Salla disease results from the buildup in lysosomes of the sugar-like substance sialic acid and causes mental retardation.

As in cystinosis, the defect in Salla disease lies in a carrier system in the lysosomal membrane. Discovering this subset of storage disorders may lead scientists to link other inherited metabolic defects to abnormalities in the lysosomal membrane's transport systems. □

Execs to Meet

The annual meeting of the Federal Executive and Professional Association will be held on Saturday, Apr. 25, from 9 a.m. to noon in Conf. Rm. 6, Bldg. 31C. All are welcome to hear Ed Gleiman, staff director of the Federal Services, Post Office, and Civil Service Subcommittee of the Senate Governmental Affairs Committee. He will discuss current committee plans affecting the federal worker. □

Women Wanted

The National Institute of Mental Health is seeking healthy, normal-weight female volunteers, ages 18 to 35, to participate in medical research studies. Participants must be unmedicated and free of medical and psychiatric illnesses. Financial compensation will be provided.

For further information, call Dr. Michael Lesem, 496-1891. □

Walk or Run for Fitness

The NIH Fitness Center's 4th Anniversary Run will be held on Friday, May 8, at noon. The courses for the 2.5-mile run and 1-mile walk will be around the NIH campus. The center will award prizes to top finishers and ribbons to all finishers.

Race applications and further information are available at the Fitness Center (Bldg. T-39, 496-TRIM) and at R&W Gift Shops. □

Strategies to Combat Osteoporosis Discussed

Calcium is not a substitute for estrogen replacement to retard bone loss in postmenopausal women, agreed researchers at a recent scientific workshop on osteoporosis held at NIH.

A major health problem, osteoporosis, or "porous bone," affects an estimated 24 million Americans. This bone-weakening disease afflicts half the women in the United States over 45 years of age and 90 percent of women over 75; it is the major underlying cause of bone fractures in postmenopausal women and older persons in general and is a culprit in 1.3 million bone fractures each year.

Investigators cited postmenopausal deficiency of estrogen as a leading cause of bone loss in women. Other risk factors are: being white; being female; or being thin; having a family history of the disease; a low calcium intake; inadequate physical activity; and consumption of certain drugs such as corticosteroids. Additional risk factors include heavy cigarette smoking (reduces estrogen production) and excessive alcohol intake.

According to Dr. William E. Peck of Washington University School of Medicine, "The most effective method of reducing postmenopausal bone loss is estrogen replacement."

Recent studies have shown that oral use of short-acting estrogen preparations reduces postmenopausal bone loss at virtually all skeletal sites, including the vertebrae, the hip, and the wrist. Peck said that an adequate calcium intake of 1,500 mg daily, and a program of frequent exercise may reduce the dose of oral estrogen needed to retard bone loss.

However, because estrogen use may be accompanied by side effects, he recommended therapy only for women who are at high risk of osteoporosis, who have no contraindications (such as women who have had endometrial or breast cancer, stroke, or unexplained vaginal bleeding), and women who will adhere to a program of careful followup by their physicians.

In summary, the researchers said that a great deal of research needs to be done before science arrives at a definitive treatment for preventing or reversing osteoporosis.—Barbara Weldon □

Study Needs Women

Women between the ages of 40 and 60 are being sought for a year-long study of how the hormone estrogen may prevent heart disease in postmenopausal women.

Further information may be obtained by calling Diane Stoy, 676-4152. □

Howard Drew Named to Donor Hall of Fame

By Bernice Loiacono

Howard Drew began his career at the National Library of Medicine as a library technician in 1948. He went on to become a literature specialist in military, sport and ethnic medicine for the Reference Services Division. At the time of his retirement in May 1985, Drew was a reference librarian and supervisor of the NLM's main reading room.

While acknowledging Drew's many accomplishments, the July 2, 1985, issue of the *NIH Record* noted that Drew was the top blood donor at the NIH after having donated more than 10 gallons of blood to the Clinical Center's Blood Bank. Now, almost 2 years since his retirement, Drew has become the first donor to have made 100 donations. This accomplishment has earned Drew the distinction of being the first donor to be enrolled in the Department of Transfusion Medicine, CC, Blood Donor Hall of Fame.

Recognizing his outstanding service as a volunteer blood donor, Dr. Harvey G. Klein, chief, DTM, presented Drew with a plaque at the DTM's Donor Appreciation Awards Program held Apr. 1 in Masur Auditorium. Upon accepting the award, Drew reassured Klein that "there's plenty more blood where this came from!" In fact, Drew, who at 62 years of age jogs 32 city blocks every day, and who looks like "the picture of health," has already completed his 103rd donation.

Outstanding service comes somewhat naturally to Drew. Coinciding with his retirement

from the NLM was his retirement from a distinguished career of 36 years of military service. During his career, Drew served in five World War II European campaigns. He also served with the National Guard and Special Forces (Green Berets) in the U.S. Army Reserve. At the age of 38, Drew began parachutist training and eventually made his 194th (and final) jump at the age of 59 on Sept. 16, 1984.

Drew is the recipient of 16 military medals and citations including the Legion of Merit, the Army's highest award, for his "exceptionally meritorious service" as the command sergeant major for Special Forces and Psychological Operations. In recommending Drew for this auspicious award, Gen. Raymond E. Bell, USAR, noted that "Command Sergeant Major Drew's personal accomplishments as a senior enlisted soldier have earned him a place in this nation's military history. His retirement from the United States Army Reserves closes a most eventful chapter in the history of the black American soldier."

CC Director John Decker was the keynote speaker at the awards program, which honored several donors who have been giving blood since the CC opened its doors in 1953. Decker described donors as the "cornerstone of the Clinical Center," and noted that he was the beneficiary of some 30 units of blood from DTM donors during a recent illness.

"There could have been an NIH without blood donors, but there could be no Clinical Center without donors," he said.



Howard Drew (r) accepts plaque honoring him as the first inductee to the Department of Transfusion Medicine's Blood Donor Hall of Fame. Looking on are Jimmie Driscoll (l), a retired NIH blood donor recruiter and Dr. Harvey G. Klein, chief of DTM. The award took place at a donor appreciation ceremony.

Centennial Blitzes Media—Press and Radio Bombarded

By Anne Barber

If any American man, woman or child makes it through 1987 without once learning of the virtues of NIH, it won't be for our lack of trying.

For almost a year now, members of the Office of Communications have been preparing news releases, press kits and radio spots celebrating the centennial. Only the television airwaves have been left unsaturated.

"The spirit of NIH is teamwork—scientific teams, media teams—all working toward helping the public. And working together to help celebrate NIH's centennial year is as large a team effort as I've ever seen," says Marc Stern, chief, News Branch, Division of Public Information.

Last summer, preparations began for developing media kits, radio spots and other materials to alert the general public to the accomplishments and advances made in human health through research at NIH during the last century.

This project involved many writers and others not only in NIH's Office of Communications but in the institutes as well.

Stern was responsible for coordinating the preparation of mailing lists, and for assembling and distributing more than 7,000 media kits.

"This was definitely a team effort," he says. "There were more than 30 people working together to get the message out to the public."

The first bulk mailing of 3,500 kits went out early in March, but the addressing and updating of mailing keys began long before—around Thanksgiving. This first mailing was sent to grantee institutions, pharmaceutical companies, newspapers, magazines, science writers, voluntary health organizations and individuals associated with NIH.

The second mailing of 4,000 kits went to those who expressed an interest in receiving information, medical schools, alumni publications, and various magazines.

"Other than the bulk mailings, there are other ways we are trying to get the message out," says Stern. Examples of these media opportunities include meetings and conferences, especially the Third International Conference on AIDS to be held in Washington, June 1-5, when 400 or more members of the international media are expected to attend.

"In fact, at many meetings we meet press or individuals from different countries who are interested in NIH activities but who are not yet on our mailing lists," Stern says.

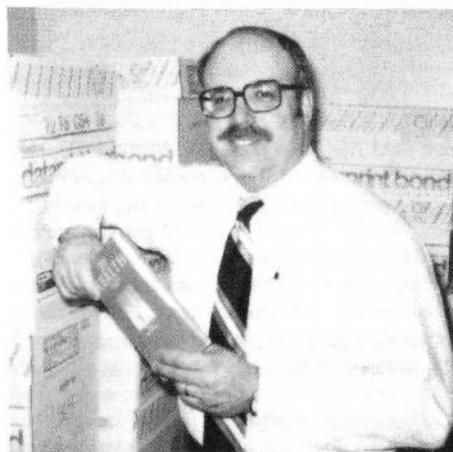
The press campaign will continue through October. Until then, Stern hopes to reach as many writers and publications as possible.

"We are always alerting radio and television

reporters and professional journals about the happenings at NIH," he continued. "Now, we are just adding the centennial information in case they want to work this into stories or other uses."

The health section of the *Washington Post* did a salute to NIH on Jan. 13, 1987. The *Baltimore Sun* also ran a special in its issue of Feb. 8, 1987. The NBC radio and ABC-TV health shows have contacted Stern and are also very interested in doing specials. A journalist and photographer working for *GEO* magazine out of Hamburg, Germany, have been at NIH for 3 weeks putting together a story.

According to Stern, his office gets an average of about 12 media calls a day. Some are routine questions, others are substantial inquiries. "We try to be responsive, and frequently we collabo-



Stern stands among the many boxes filled with press kits ready for distribution.

rate with various institutes to make sure the information we have is timely and accurate," he says.

Response to the press kits has been favorable, both inside and outside of NIH.

When Stern came to NIH in 1967, NIH was celebrating its 80th birthday; then President Lyndon B. Johnson declared NIH a "billion dollar success story."

"I had no idea how many more accomplishments would be made and that today, 20 years later, NIH would be a \$6 billion success story and looking ahead to finding more ways of helping more people," says Stern.

While Stern has been busy mailing out press kits, Gerri Blumberg of the Audiovisual Branch has been busy creating centennial radio public service announcements.

The radio spots are titled, "America's Scien-

tists—A Salute to NIH." They are a series of 20 one-minute minidocumentary salutes to scientists who have made significant contributions during the past century; some Nobel Prize winners are featured.

"I feel we have a good representation—from combatting yellow fever and cholera to the new fields of genetics and DNA structure," Blumberg says. Not all the scientists featured are from NIH, but all are Americans. Examples include Dr. Joseph Goldberger, Dr. James Watson, Dr. Julius Axelrod, Dr. Marshall Nirenberg and Dr. Barbara McClintock.

"It was very hard to tell enough about a particular discovery in simplified terms so that people would understand it," Blumberg continues. "It's hard to get across the important point without going into a lot of detail."

The spots were developed not only to educate the public but also to spur young people to consider careers in scientific research.

"It was a real challenge," says Blumberg. "After the initial introduction and the final sign-off, there were only 40 seconds left to tell the story."

Blumberg acted as producer and creative director for the radio series. She did the research, came up with the names of scientists, and directed a writer for the spots and a composer for the music.

"We wound up with four different cuts of music because we needed emphasis at different points on the tapes," she says.

The spots dramatize the significance of scientific achievements and connect laboratory breakthroughs with improvements in human health. The scripts used imagery to stimulate the listener's imagination. "Radio is very effective for achieving this, far more effective than television," says Blumberg.

After developing the scripts, Blumberg needed a narrator. "At first we thought of using different celebrities for the announcements, but we ended up using one voice for all," she said. And that voice belongs to her husband, Ralph, a veteran of broadcast journalism.

"We have always been in radio," Blumberg continues, "so, as a favor to me, he narrated the pilot. Everyone liked it so much, I persuaded him to do the whole series. It was effective because it established a consistency of style and besides," she laughed, "he was free."

The spots were mailed to 5,000 radio stations around the country. The first 10 in the series were mailed in mid-December for use after Christmas. The remaining 10 were mailed this month for use after Easter. "The post-holiday periods are traditionally slow advertising

days in radio," Blumberg said. "There is a real hunger for public service announcements." According to Blumberg, the response has been good and the spots have run frequently on local stations and nationwide.

The spots are also being aired via the National Public Radio (NPR) satellite so that stations may tape them for future use. "The stations call these spots 'evergreens,' which means they're never out of date," states Blumberg.

Blumberg has been at NIH for 14 years and with the AV Branch for 10 of those years. She produces the "Health Updates" for NIH that are run on WGMS radio every Sunday morning at 7:15 a.m. and NPR every Tuesday night. These are 15-minute interviews on health research subjects such as diabetes, aging, and



Blumberg at work in the recording studio of the AV Branch where she tapes the "Health Updates" interviews.

dental problems. Stations can take them off the satellite or send requests for cassettes of particular shows.

"We send 'Health Updates' to about 400 radio stations and 50 NPR outlets also use them," Blumberg states.

Blumberg and her husband have been in radio for more than 30 years. In fact, they met at a radio station in St. Louis when she was a copy writer and he, a news director. They continued to work together at other stations; in 1960-65, they owned their own radio station in Bogalusa, La. After the Blumbergs sold the station, Ralph went to CBS in New York and Gerri wrote copy for radio stations in Westchester County, N.Y. After 5 years in New York, the Blumbergs came to Washington, Ralph with the Federal Communications Commission and Gerri with NIH.

"It was a wonderful time working together again," Blumberg says.

The radio spots, along with the press kits, were produced in cooperation with industry, academia, and voluntary health organizations. □



Dr. Frederick Goodwin, NIMH scientific director, was one of four top federal managers singled out for special mention by President Reagan at a recent White House awards ceremony. He received the Distinguished Executive Award, the highest honor attainable within the Senior Executive Service. He was among only two such recipients within DHHS; each received a \$20,000 cash award. Credited with pioneering development of lithium as a treatment for manic-depressive illness, Goodwin is currently completing a major textbook on that disorder scheduled to be published by Oxford University Press early next year.

Conference on Reproductive Consequences of Cancer Scheduled for May at Bethesda Hyatt Regency

Now that more types of cancer are yielding to treatment, new questions have risen about the fertility potential of cancer survivors. Chemotherapy, radiation and surgery, as well as the disease itself, can have immediate and long-term effects on fertility and sexual function.

The National Cancer Institute and the National Institute of Child Health and Human Development are sponsoring an International Conference on Reproduction and Human Cancer to collect and summarize current knowledge in this area, to define areas needing more research, and to lay groundwork for interdisciplinary collaborations. The conference will be held May 11-13 at the Hyatt Regency Hotel in Bethesda.

The conference will feature experts from around the world in such disciplines as medical, pediatric, and radiation oncology; obstetrics and gynecology, endocrinology, psychiatry, genetics and teratology; and reproductive, mutation, and radiation biology. According to conference coordinators, the meeting provides the first opportunity for the latest research findings from multiple disciplines to be presented in a systematic, coordinated way.

Presentations will include an overview of the incidence, biology, treatment, and survival

rates of cancer, the reproductive and genetic effects of gonadal exposure to ionizing radiation and chemotherapy, psychosocial effects relating to reproductive fitness, psychosexual aspects of cancer, and clinical problems and management of cancer patients.

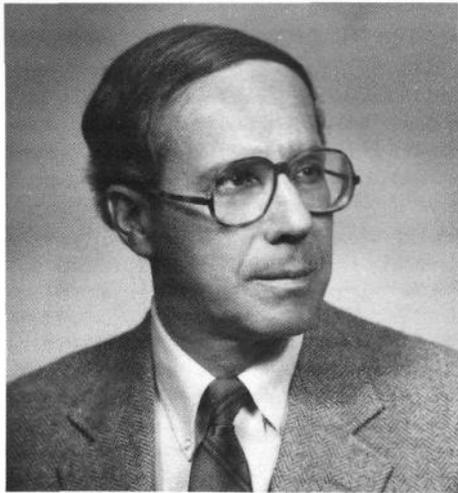
There is a \$25 registration fee. For more information, call Mary Clark, (301) 589-6760. □

Training Initiative Announced

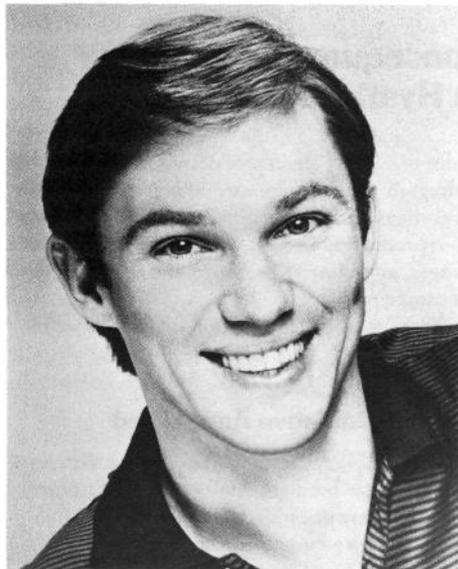
The DHHS Women's Management Training Initiative has been announced for 1987. Thirty participants will be selected from the Public Health Service for the 1-year program.

The WMTI offers opportunities for training and developmental assignments. It allows the participant to gain skills to compete more effectively for supervisory positions but does not guarantee promotion. If you are a full-time, career, nonsupervisory employee in grades GS-9 to GS-12, you are eligible to apply for this program.

An orientation session will be held for potential applicants on Tuesday, Apr. 28, Bldg. 1, in Wilson Hall, from 11:30 a.m. to 1 p.m. A panel of NIH employees from the previous WMTI program will share its experiences. For more information, contact Diane Ruegg, Division of Personnel Management, 496-6371. □



"Tracking the Causes of Diabetes Mellitus: From Viruses to Autoimmunity," is the topic Dr. Abner Louis Notkins will address when he delivers the NIH Lecture, May 6, at 8:15 p.m. in Masur Auditorium. Notkins, internationally renowned for his work in viral immunology, is director of the NIDR Intramural Research Program and chief of the Laboratory of Oral Medicine.



Actor Richard Thomas, known for his Emmy Award-winning role as John Boy in the popular television series *The Waltons*, will be guest speaker at the annual NINCDS All Employees Meeting on Tuesday, Apr. 28. The meeting will be held in the ACRF Amphitheater from 10 to 11:30 a.m. Thomas will speak about his experiences with mild hearing loss caused by cochlear otosclerosis and about his work to boost public education efforts for the cause of better hearing. He is 1987 celebrity chairman for Better Hearing and Speech Month in May and will launch the Council for Better Hearing and Speech Month's public information campaign during ceremonies in Washington.

TRANSFUSION-RELATED AIDS IS RARE

(Continued from Page 1)

ing a unit of plasma infected with HIV. This patient has been infected with HIV but, up to now, has not been diagnosed as having AIDS. "Although infected units are rare, most recipients of any part of an infected unit will likely become infected," Klein says.

In another study with Dr. Henry Masur, deputy chief of the CC's Critical Care Medicine Department, Alter transferred blood plasma and cells from patients with AIDS into chimpanzees; one of the chimps developed an unusual lymph node swelling unlike anything previously seen at the animal facility.

"This was the first evidence that chimps might be acceptable as an animal model," Klein says. Around the same time, Dr. Robert C. Gallo, chief, Laboratory of Tumor Cell Biology for NCI, developed the test for detecting anti-HIV in blood and it was shown that the animals that received infected products were indeed infected themselves, although none developed AIDS.

"It should be pointed out that being infected does not necessarily mean you have AIDS," Klein states. "We cannot predict which infected patients will develop AIDS." Once a patient is infected with HIV, by a blood transfusion or by another route of exposure, the anti-HIV test can take from 6 weeks to 3 months to turn positive because each person's body responds differently to the virus.

"This time lag is called the 'window of infectivity,'" says Klein.

The screening procedures for blood donors now include several precautions. Donor recruiting includes educating the donating public about high-risk behavior and eliminating known risk individuals such as I.V. drug users, gay men, hemophiliacs, prostitutes, residents of AIDS-endemic areas and their sexual contacts. Also, the donor screener asks about signs and symptoms of HIV infection (fever, chronic cough, diarrhea, white spots in mouth, weight loss, swollen glands) and checks for needle marks on the donor's arm.

Donors are also given an opportunity to defer their blood after donation in a confidential manner in case, after second thought, they feel that it might be of some risk in transfusion.

After the blood has been donated, it goes through a screening test called ELISA (enzyme-linked immunosorbent assay). This test, used on every blood component, basically detects the donor's immune response to HIV infection.

A second blood test, a "confirmatory" test called the Western Blot, is performed on all ELISA-positive samples. This test looks for antibodies to certain viral proteins, and is designed to be very specific.

Both of these tests are currently licensed. "If for any reason the blood tests positive on the initial screening test, we discard it," Klein says, "even though the confirmatory test may prove negative. This means we throw away more units, but it is better not to take any chance."

According to Klein, with both of these tests, the results detect the body's reaction to the HIV virus. This eliminates almost all infected units that slip through donor screening.

New tests need to be developed; he suggests two approaches. "While there are no licensed tests available, there are experimental tests that look promising," he says. One test that actually detects the HIV virus was field tested in Europe; it is called a viral antigen capture assay and is currently being evaluated in the U.S.

Another approach would be to make the present tests more sensitive. For example, the ELISA is being made more sensitive to early antibody response which in turn could pick up earlier evidence of viral infection.

One promising approach is to develop methods to kill the virus in blood components. Heat treatment applied to kill the virus in the clotting agents given to hemophiliacs has proven very effective. "Unfortunately, you can't use heat on red blood cells and platelets," Klein states. "So we need to look for methods to treat the other blood components."

There are basically two methods that can be used to limit donor blood transfusions. One is using the patient's own blood. This is called predeposit autologous, and is used mostly for elective surgery when the patient has time to come in and deposit his or her own blood.

Another method called autologous salvage employs a machine that reuses the patient's own blood during surgery. This is mostly used during open-heart surgery and other procedures that require a lot of blood. This procedure has been around for 20 years but, because of the AIDS scare, more doctors are now willing to take the time and trouble to use it.

"There appears to be about a 5 percent decrease in the use of donor blood in the U.S.," Klein says. This suggests that, because of AIDS, less blood is being transfused. "It may mean," Klein continues, "that the patients as well as the doctors are more concerned and think more about it before arbitrarily giving blood transfusions.

"If the decrease in blood use is confirmed, and if it is in fact unnecessary transfusions that have been eliminated as we suspect," Klein says, this decrease in blood transfusions suggests that, "while the AIDS cloud does not have a silver lining, it may have a bronze lining at least." □

Symposium on Aging Marks NIH Centennial

Average life expectancy continues to increase, not only in the United States, but worldwide. The number of people age 60 and over in the world rose from 234 million in 1960 to 370 million in 1980. It's estimated that by the year 2025 there will be over 1 billion people age 60 and over in the world. This increase in the numbers of older people—which can be attributed to factors such as better nutrition, sanitation, and prevention and treatment of major diseases—is also creating special challenges for aging populations.

On May 1, as part of the NIH Centennial activities, the Ciba Foundation, the National Institute on Aging, and the Fogarty International Center will cosponsor an open forum, "International Symposium on Research and the Aging Population," to present recent findings in biomedical research as they relate to aging populations worldwide. The forum will take place from 8:30 a.m. to 4:45 p.m. in Lister Hill Auditorium, Bldg. 38A.

During the symposium, researchers from the United States, Australia, the United Kingdom, and France will discuss aging and disease, psychiatric disorders among the elderly, disorders of the skeletal system, cardiovascular disease, and health and aging in the developing world.

The forum is free to anyone interested. Pre-registration is encouraged, due to limited space. For further information, call Marcia Aaronson, 496-2368.—Calvin Jackson □

Film Series Ends May 7

The film, *How to Die Young as Late as Possible*, will be shown May 7 at noon in the Clinical Center's ACRF Amphitheater.

Presented by the CC Social Work Department, the film is the last in a series on "Life Cycles and Illness." A panel discussion will follow the movie, which focuses on ways to maintain wellness in old age.

For more information, call Lorrie Cummings, 496-4210. □

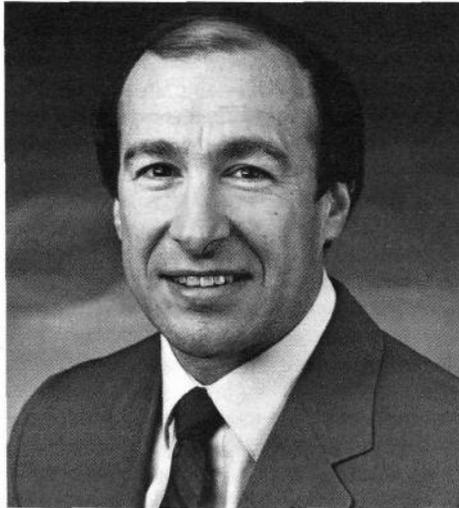
Calling All Alumni

A reunion of NIH alumni will be held Oct. 15–18 in Bethesda, Md., capping the year-long celebration of the NIH Centennial.

More than 100 speakers will be featured during a program of scientific symposia. A variety of social events are also planned.

For more information, contact the NIH Office of Centennial Activities, Shannon Bldg., Rm. 238, Bethesda, MD 20892. □

Two New Appointments at NHLBI



Stephen A. Ficca has recently been named NHLBI executive officer. He comes from the National Cancer Institute, where he was an administrator from 1971 until this year.



Dr. Eugene R. Passamani, has been named director of the Division of Heart and Vascular Diseases. He has been associated with NHLBI since he completed his medical training.

Miller Retires From NCI

J. Richard Miller, a chemist in NCI's Division of Cancer Biology and Diagnosis, retired recently after 34 years of federal service.

Miller worked in the DCBD's Laboratory of Biochemistry, Macromolecular Interactions Section.

"Richard was always cooperative, helpful and patient with everyone. He will certainly be missed by members of the laboratory," said Dr. Claude Klee, chief of the section.

A native of York, Pa., Miller began his government career at NIH in 1952 as a medical biology technician. After receiving his B.S. degree in pharmacy from George Washington University in 1963, he became a chemist in NIH's Division of Biologics.

He transferred in 1967 to the Food and Drug Administration, Bureau of Biologics, where he developed and improved tests to measure chemicals in biological products such as blood and vaccines. He returned to NIH in 1975 as a chemist in NCI's Division of Cancer Cause and Prevention (now the Division of Cancer Etiology).

Miller joined the DCBD in 1982. In addition to his laboratory responsibilities, he helped coordinate the renovation and construction of laboratories on three floors of the Clinical Center B-wing in 1984.

In his retirement, he plans to manage his construction contracting company and eventually assume the role of "gentleman farmer" on his Virginia property. □

STEP Presents 'A Legislative Primer'

Kathleen Holcombe, deputy assistant administrator for planning, evaluation and legislation, HRSA, and Judy Schneider, specialist in American national government, Library of Congress, will present *A Legislative Primer: (learn how Congress really works)*, on Tuesday, May 12, from 1 to 4 p.m., in Wilson Hall, Shannon Bldg.

The forum will cover the process involved in a bill becoming a law of the land.

For additional information, contact the STEP program office, 496-1493. □

Parklawn Classic Is Friday

The 1987 Parklawn Classic will be held Friday, Apr. 24, beginning at 11 a.m. Open to all PHS employees in the Washington area, the classic features a 5-mile run and a 2.5-mile health walk.

Last year, nearly 250 PHS workers participated in the run while more than 1,000 employees walked the classic course. This year's run begins in Rock Creek Park; the walk starts at the Parklawn north parking lot on Fishers La.

Trophies and medals will be awarded to top finishers of the race. Health walkers will receive ribbons.

For more information, call Mark DeSpain, 496-6061. □

TRAINING TIPS

The NIH Training Center of the Division of Personnel Management offers the following:

<i>Courses and Programs</i>	<i>Dates</i>
<i>Management and Supervisory</i> 496-6371	
Managing Behavior in the Work Environment	5/13-15
Effective Communications	5/5-8
Managing Stress and Maximizing Effectiveness	5/19-21
Presidential Operations Workshop	5/30-6/1
Supervising in the Federal Wage System	6/4-8
Introduction to Supervision	5/11-15
Communication for Results	6/23-26
The Federal Budget Process	6/3-5
Pragmatic Problem Solving	5/4, - 7/15 & 9/15

<i>Office Skills</i> 496-6211	
Effective Decisionmaking	6/8-9
Working with Personal Differences MBTI for Support	6/15-16
Improving Voice and Diction	6/29-30
Introduction to Working at NIH	5/20-21 6/17-18

<i>Adult Education</i> 496-6211	
<i>Training and Development Services</i>	
<i>Program Orientation</i> 496-6211	
Apr. 29	—Westwood, Rm. 428
May 6	—Federal Bldg., Rm. B1/119
May 19	—Landon Bldg., Conf. Rm. E
June 9	—Bldg. 10, 11th Floor solarium
June 16	—Bldg. 31, Rm. B2C07

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French Donate Imager

By Colleen Henrichsen

A collaborative effort between NIH and France's Ministry of Research has resulted in the acquisition of a new magnetic resonance imaging (MRI) unit, delivered to the Clinical Center's Diagnostic Radiology Department last month.

The unit was donated to NIH by a French electronics manufacturing company, Thomson-CGR, that received FDA premarket approval for its MRI technology last year.

"This collaboration will give CGR the opportunity to interact more closely with NIH, where research advances are being made in diagnostic imaging," said Dr. Andre LeRoy, of the Biomedical Engineering and Instrumentation Branch, DRS. "In addition, the Diagnostic Radiology Department will be able to ease the workload on its existing MRI unit," said LeRoy, the DRS international representative to NIH's Fogarty Center and the NIH coordinator with INSERM, the French counterpart of NIH.

LeRoy became acquainted with the French Ministry of Research when he completed a work-study program in France several years ago. About 2 years ago, members of the ministry and the scientific mission of the French Embassy in Washington, D.C., expressed interest in making French MRI technology better known in the United States. They were looking for sites to place a unit and LeRoy suggested NIH.

"They see NIH as an extraordinary site because it offers applications of the technology

not found in other research centers," he said, referring to the Clinical Center's unique setting where medical research is applied directly to patient care.

The equipment will be operated by the Diagnostic Radiology Department and NCI's Radiation Oncology Branch. In addition to allowing the radiology department to accommodate more MRI patients, the new equipment will be used to study MRI in radiation therapy.

"The challenge of radiation therapy is to deliver a dose of radiation to the tumor and still spare normal tissue," said Dr. Eli Glatstein, chief, Radiation Oncology Branch. "Because MRI can better delineate tumor from normal tissue, we hope that it can be used to plan the maximum dose to tumors while sparing normal tissue."

CGR will furnish the unit along with detailed technical information on the hardware and software. The company will work with NIH staff to modify the equipment according to the needs of specific research protocols. Diagnostic radiology is constructing an independent MRI display station that will allow scans to be viewed at the same time data are being acquired. The department is also installing a computer hookup to allow scans from the new unit to be viewed in the Radiation Oncology Branch on the B3 level of the CC. The MRI unit will be located directly behind the admissions desk in the Diagnostic Radiology Department on the first floor of the ACRF. It is expected to be operational this summer.

A scientific committee that includes Drs. John Doppman, chief, Diagnostic Radiology Department, Glatstein, and LeRoy will facilitate communication between NIH and CGR. A French scientist will join the diagnostic radiology staff to assist in transfer of information.

The CC first began using MRI for clinical diagnostic imaging in 1984. This technology provides precise, clear pictures of the internal structure of the body without radiation or the need for invasive procedures such as dyes or catheters. Instead it uses magnetic fields and radio frequency pulses to provide images of organs and their relationship in the body. Studies show no pathological, developmental, or genetic consequences from exposure to strong magnetic fields.

In recent years, the technology has been increasingly incorporated into routine clinical care at the CC, with new applications continually being discovered. The major application of MRI at NIH is the study of the brain, including multiple sclerosis and similar white matter diseases, brain tumors, and brain infections.

"This is a burgeoning research area," concluded LeRoy. "We hope that this exchange will make us more acutely aware of the capabilities of MRI." □

Pedestrians and Drivers Sharing the Roadway; Know Rules, Show Caution

As the nice weather approaches and we look forward to spending more time outdoors, it's a good idea to take a minute to think about our personal safety and the safety of others.

On any given workday NIH is a busy place—accommodating about 20,000 employees, visitors and patients. Many employees elect to keep fit by walking, running, jogging or bicycling to work or by taking an exercise break. With this in mind the following safety tips are offered by the Security Branch.

Pedestrians Use Caution

Remember that the vehicle operators are also enjoying the nice weather, so it is important to:

- Always cross streets at designated crosswalks.
- Before entering crosswalks, be sure to look both ways.

- Remember that weather conditions, such as a very bright sun, can temporarily interfere with the vision of a vehicle operator.
- For safety's sake, assume that vehicle operators *do not* see you!
- Be courteous. It improves the safety of everyone.

Drivers Follow Rules

- Be aware of the increased pedestrian activity.
- Be cautious not to exceed the NIH speed limit of 20 M.P.H. (unless otherwise posted).
- Be aware that pedestrians have the right of way within crosswalks.
- Assume that the pedestrians do not see you.
- Extend the same courtesy while driving that you would want as a pedestrian.

*Illness Has Its Uses***Great Achievements Can Result from Efforts to Avoid Depression, Author Says**

An Oxford professor has discovered a silver lining in that mental cloud known as depression.

Having examined retrospectively the creative lives of two great British geniuses—Sir Isaac Newton and Sir Winston Churchill—Professor Anthony Storr has concluded that there would be neither gravity nor Britain were it not for depression.

That's stating the case Storr made before an ACRF Amphitheater crowd Apr. 7 a little baldly, but the crux is there: the achievements of both Newton (who defined mathematically the effect of gravity) and Churchill (whose bold leadership helped save England in the last World War) can be seen largely as the fruit of efforts, sometimes desperate, to avoid looming depression.

In a witty and learned seminar introduced by NIMH Scientific Director Frederick Goodwin, Storr, author of "The Art of Psychotherapy," drew parallels in psychopathology from the biographies of both subjects.

Both Newton and Churchill were born prematurely and suffered neglect by their parents. Though outwardly they may have appeared opposites—Newton was introverted and withdrawn while Churchill was ebullient, an orator and a leader of men—"both were narcissistic, ambitious and prone to depression," Storr said. "Both were compulsively driven by their psychopathology—and I mean this in the widest sense, not as an indictment. Both had the motive of avoiding depression."

Storr traces Newton's depression to the events of his early life, which was marked by disorientation and disorder. His father died before he was born and his mother was more interested in pursuing a lively social life than in raising a son. She remarried when Newton was 3 years old and abandoned him to the care of grandparents.

"Newton passionately resented this," reports Storr. Young Isaac grew up a "sober, silent,

thinking lad." Contemporaries described him as abstracted, notably hypochondriacal, fearful, cautious and suspicious. He was unorthodox in the practice of religion, belonging to the Unitarian church. All agreed he possessed extraordinary powers of concentration, sometimes to the point of neglecting sleep and food. Storr described him as a "lifelong virgin" who was endlessly concerned with his moral life, once cataloguing 58 sins of which he believed himself guilty.

"Newton was often depressed about his lack of self worth," said Storr. "He had very little capacity for enjoyment. He was severe, autocratic, intolerant and emotionally isolated."

At age 53, Newton had a short-lived mental breakdown, which Storr described as more a "mid-life crisis" brought on by presentiments of ebbing intellectual strength than an instance of underlying mental illness. As often occurs even nowadays when a brilliant creative mind passes its prime, Newton left the laboratory at mid-life for an administrative job, Chancellor of the Exchequer.

The economist John Maynard Keynes inherited Newton's papers and wrote an essay on the man who discovered the laws of gravity, the principles of optics and the field of math called calculus. Storr reports that the bulk of what Keynes inherited dealt not with physics but with church history and alchemy.

"I find it very difficult to see him making the same accomplishments if he was a balanced, happy, equable man," Storr concluded. "I think it is reasonable to derive his isolation from a basic mistrust (and thirst for order) learnt early in life."

Turning to Churchill, Storr finds evidence of genetically transmitted affective disorder in his family. Compounding this native tendency were parents who "neglected him to a remarkable degree."

Churchill knew depression so well he even gave it a name—"Black Dog." But he fought

all his life to conceal depression from his colleagues, consciously cultivating "rude, hearty spirits" to mask his despair. Storr says that his nanny was his principal source of emotional support; Churchill reportedly kept a picture of her on his wall until the day he died.

Storr said that, like many clinically depressed people, Churchill did not vilify his parents; rather, he idealized them. A romantic all his life, Churchill strove to be the center of attention, to hold the floor. "One cannot imagine him cozily relaxed," Storr said. He had an enormous appetite for food and cigars, and was ever hungry for praise, success and power. "But nothing was ever quite enough to fill the aching void at the center of his being."

Storr thinks it is "extremely unlikely that Churchill could have accomplished what he did without depression" as a goad. But, he cautions, with the heartfelt sincerity of a fellow Briton, what England needed to survive in World War II was not a sober realist but a romantic visionary, an orator who could speak unabashedly of Britain's "finest hour."

Thus, illness has its uses.

Even though Storr focused on contrasts in the psychology of genius, he was careful to preface his remarks with the observation that "we know very little about what makes the 'common man' tick," let alone the genius. In any event his talk, sponsored by NIMH, made interesting listening. □

Volunteers Needed

The National Institute of Dental Research needs research study participants who have frequent cold sores or fever blisters.

For more information call Peggy, 496-0309. □

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