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Dean’s Comments

The McDonnell Medical Sciences Building has been in use for six years now. Yet, most of our alumni have never seen it, except perhaps in pictures. This magnificent structure was made possible by Mr. James S. McDonnell. At the time of the dedication in the fall of 1970, most of the space for our basic science departments was contained in buildings that were 55 years old.

The first floor of the McDonnell Building contains lecture halls named for Doctors Cori and Erlanger. The offices for student affairs, under the leadership of Dr. John C. Herweg, are also on the ground floor. Down the hall and across the lobby is a cafeteria.

The second and third floors contain the multidisciplinary laboratories for medical students. These are quite spacious and modern compared to the laboratories in use prior to 1970.

The building houses the newly formed Department of Genetics, which has been organized and launched as a basic science department.

The ninth floor provides space for the Division of Biology and Biomedical Sciences, which is made up of the basic science departments in the School of Medicine together with the Department of Biology.

The School of Medicine was indeed fortunate to have received this building six years ago. To say that it has been very useful would be an understatement.

M. Kenton King, M.D.
Dean
For centuries the mouse has been scientists' best friend, and today it still is an integral part of scientific research. At the School of Medicine, the new Department of Genetics bases its research on this invaluable creature. See story page 2.

Cover and photos on pages 35-37 by Herb Weitman.

Editor's Note
For the first time the Washington University Medical Center President's Report has been inserted in Outlook. We hope our readers will enjoy this summary of the Medical Center's progress.
Thimble-sized newborn mice: Another new generation to aid in furthering genetic research.
Mouse Colony Provides Key To World-Renown Research

Story and Photos by Linda Nielsen Weller

In the summer of 1975, when the McDonnell Department of Genetics was established, a crew of 12,005 came from Michigan to become part of the new division. Two are doctors, three are laboratory personnel and 12,000 are mice.

The specially-bred mice are the backbone of research in the new genetics department, in addition to being indispensable tools of immunological research in labs throughout the world.

The mice are the product of many years' work, says Chella S. David, Ph.D., associate professor of genetics. "Most are inbred mice, produced by matings between brothers and sisters for more than 100 generations," he says. The animals are the key to research being done at the department on immunological genetics, studies on the genetic control of transplantation and immune responses.

Besides being instrumental to work being done here, other laboratories in the United States and in foreign countries have been supplied with the specialized, genetically-defined strains of mice bred by Dr. David and by Donald C. Shreffler, Ph.D., professor and acting chairman of the Genetics Department.

Dr. Shreffler, formerly affiliated with the Department of Human Genetics at the University of Michigan, started the mouse colony in 1961 with a set of key strains obtained from the Jackson Laboratories in Bar Harbor, Maine. At the laboratories in Maine, Dr. George Snell had done pioneering work in the production of these strains, called congenic resistant strains—strains which differ only for the genes which control acceptance or rejection of grafts.

Says Dr. David, "In an attempt to map precisely the numerous genes associated with the major histocompatibility gene complex (H-2), Dr. Shreffler produced many 'recombinant' strains of mice which revealed the complexity of this segment of chromosome." Dr. David later joined forces with Dr. Shreffler in the careful serologic and genetic analysis of these recombinant strains.

Explains Dr. David, "Soon it was discovered by Dr. Hugh McDevitt of Stanford University that genes which control immune responsiveness also are included within this gene complex. As a result, these recombinant strains, differing in small segments of the complex that controls only immune responses, have become one of the most important tools in the study of some important immune mechanisms.

"Our mouse colony contains the best collection of such recombinant strains in the world. Naturally, these strains are in great demand throughout the world."

According to Dr. David, "The histocompatibility systems in humans and mice are very similar. The information gained from experiments with mice often can be applied directly to humans. The mouse system is a model for the human system."

Currently the department has between 60 and 70 established inbred strains and 25 to 30 strains in the process of becoming inbred, comprising the 10,000 to 12,000 animals. "Depending on demands, the number of mice maintained within each strain varies," says Dr. David.

The unique recombinant strains available in the department are sent to genetic and immunology researchers worldwide.

"We maintain strains that few other laboratories in the world have," says Dr. David.

The mice, however, are not for sale. They are provided free, as they become available, as a service to other researchers. Drs. Shreffler and David both have received five-year grants from the National Institutes of Health to support their research, including the animal colony.

Says Dr. David, "We are prepared to provide the mice to any universities or institutions that are doing worthwhile projects." So far, he says, they have supplied more than 5,000 mice to other laboratories. Most of the mice they have sent, he notes, were breeding animals, so the other labs could produce their own mice. Because of this, says Dr. David, the demand is somewhat less now than it was previously.

Dr. David also produces numerous antisera which identify specific gene products coded by the H-2 chromosomal segment. These antisera, says Dr. David, are important tools with which the gene functions of the immune response system can be studied: "We collaborate with other labs throughout the world on this, also," he adds.

The other laboratories have a variety of uses for the strains and the antisera, studying the immune phenomena from many different angles. Dr. David says that since many of the collaborating researchers in other laboratories are immunologists, he and Dr. Shreffler, as geneticists, aid the other workers in planning and interpreting the genetic aspects of their research projects.

"The results from this sort of collaborative research will add up to important breakthroughs in the future. A lot of exciting new data are coming in," says Dr. David. "This is one of the hottest areas of immunology now. We are fortunate to be involved in it."

Although the two doctors both are heavily involved in the breeding and
the research with these mice, each is involved in a different way. Says Dr. David, "I've narrowed myself, concentrating especially on the genetics and serology of the immune response phenomena. Dr. Shreffler is more involved in the recombination studies and the functional definition of the entire H-2 gene complex and is concerned with the genetics of transplantation phenomena as well as the immune response.

Just as utmost care is taken in breeding the mice, utmost caution is used in maintaining perfect living conditions for them. Says Dr. David: "They are very sensitive mice," due to their repeated inbreeding, which makes them susceptible to disease.

Along with Drs. Shreffler and David, three other key persons accompanied the mice from Michigan to insure that they are given proper care. One is Ronald Jackson, laboratory animal supervisor, who cares for them and sees that strict adherence to proper health standards is maintained at all times. Jackson has recruited a local crew of animal handlers to assist him.

Because they are vulnerable to disease, the mice are segregated from all other animals, including other mice, and from persons who work with other mice. Incoming mice are quarantined for many weeks in a room outside the colony for observation before being admitted to the colony, although, says Dr. David, "We have relatively little inflow of mice from outside sources."

The mice are housed on the seventh floor of McDonnell Medical Sciences Building in an area specially designed by Drs. Shreffler and David and Jackson. Says Dr. David, "these are priceless animals. If we go out of business, other labs around the world would be hurt. These mice are our bread and butter."

The animals reside in metal boxes, five to six per cage, in six rooms, with each room serving a different purpose, i.e. stock, experimental, breeding, recombination studies, etc. In charge of the breeding of the new "recombinant" strains which are vital to continued progress in this field, is Rick Zeff, also a member of the crew from Michigan.

Each cage is tagged with strain letter symbols and each breeding animal is given a number to identify it in pedigree records. Dr. David says most of the congenic strains are indistinguishable from one another to the naked eye, and of course, within an inbred strain each mouse is identical.

"We try not to work on two strains at a time so there's no mix-up," he explains. "Periodically we do a quality control. We run them through a serological test to check for the antigens they are supposed to carry." Another staff member from Michigan, John Mc-
Cormick, is responsible for that testing.
Temperature in the rooms is kept near 70° F, says Dr. David, backed up with an emergency ventilation system that is tied to an independent generator, should the electricity fail. Ventilation is critically important, says Dr. David: “We have a one-way air circulator so we don’t recirculate organisms from one room to another.

“If any of the environmental regulating systems were to fail,” he explains, “there are several kinds of alarms to the security guards, who would contact one of us immediately so we could decide which course of action to take.”

The delicate mice, with their special needs, had to be treated with no less than “kid gloves” during their move by air from the labs in Michigan to St. Louis that summer.

Dr. David says Dr. Shreffler was the first to come to the city at the beginning of July, 1975. The following month, Ronald Jackson arrived to help set up the colony. Dr. David and associates put the mice in shipping boxes in Michigan an hour before their flight was to leave, so the mice were in transit only three to four hours maximum, he says.

Dr. David says they divided the mice into four groups per strain, flying only one group at a time. “We did not fly them together on the same plane,” he says, adhering to the custom practiced by presidents and vice presidents of the United States. That way, in the event of a plane crash, they would not lose an entire strain. A new shipment was not sent until Dr. David had heard from Jackson that the mice were safe, healthy and reproducing.

Moving the mice took four weeks, with the last arriving in late September. According to Dr. David, “The airline was very cooperative once their personnel were aware of the importance of the animals.” The mice travelled in specially-designed boxes, 20 mice per box. The boxes had holes for ventilation and contained food pellets. Food was not a concern, though, says Dr. David, as the trip did not last for a long time.

Of primary importance was the water supply. Dishes or water bottles could

Kenji Okuda, M.D., Ph.D., is completing his post-doctoral studies in the Department of Genetics. He utilizes the scintillation counter in running tests.
not be used as they would spill or break, says Dr. David, so they gave the mice potato halves to suck on. From these, the mice could extract enough liquid to quench their thirsts for the duration of the trip.

Dr. David says they ran into only one major obstacle in transporting their precious cargo. On one of the shipping days, they discovered that the temperature in St. Louis had surpassed 100 degrees. Dr. David says the mice would have been dead in just the short time it would have taken to transport them from the plane to the loading dock.

The solution was to ship them at midnight. "They arrived at 6 a.m. while it still was cool," says Dr. David, "and they were in the animal room here at the Medical Center by 9 o'clock."

Dr. David says such extensive precautions are not taken in their shipments to other laboratories, since usually only a few breeding animals from any one strain are sent at a time, and these can always be replaced from the parent colony. For these shipments they line up the air flights in advance to insure the most direct route and they call or send cables to the recipients telling them exactly when the mice will be arriving. "We send all mice collect," he adds, "so the airlines take more precautions. They don't get paid if the mice are dead when they arrive."

Most of the strains are descendants of recombinant animals Dr. Shreffler painstakingly began searching for 15 years ago. Screening thousands of animals for the correct genetic make-up, he found the recombinants in a frequency of about one to five per thousand. Seven years ago, Dr. David joined him.

"The chromosome segment under study experiences about one-half per cent genetic crossing-over," explains Dr. David, "with each cross-over taking place in a different position within the segment. We never throw away any of the new recombinations because we are constantly discovering new genes by analyzing them. We thought some strains were identical five years ago and now we are finding that they have different cross-over points. We are constantly screening for new combinations. It takes a lot of our time, but it has been worth it."

Says Dr. David, "It takes two to five years to establish a recombinant strain. First, we make them congenic by breeding them for about 10 generations back. We concentrate on preserving the chromosomal segment we are interested in, while making all other genes identical to a background strain."

The H-2 gene complex, which currently is under study, is a set of many linked genes, says Dr. David, all carried on chromosome No. 17. Three major classes of genes within the complex perform three functions: controlling histocompatibility; the immune responses; and complement components.

"The first class of gene products," says Dr. David, "monitors the body for foreign antigens and organisms (immune surveillance). The immune responses (the second class of gene products) go into function when alerted and the immune system attacks the invader. The third class of products (the complement system) destroys or lyses the invaders, removing them from the body."

The histocompatibility system in the human, called HLA, also is comprised of three sets of closely linked genes and is remarkably similar in organization and function to that of mice.

The similarity between the chromosomal make-ups in mice and in humans accounts for the medical importance of the study. The foreign invaders to be warded off, says Dr. David, include "any type of bacterial or viral disease organisms or body cells that have become cancerous."

"Because the mouse system is so similar to that of the human, the information on the mouse may eventually lead to practical applications to humans," says Dr. David, "the field is at a stage in which we are gaining enormous knowledge on the immune system. Many of the advances are coming from group efforts—collaborations between many laboratories."
One of the main reasons Drs. Shreffler and David elected to move their program to Washington University was the stimulating research environment in immunology, says Dr. David, in addition to the potential for greater interactions with other groups. "We hope to interact with researchers from a number of different departments, for example, Drs. Davie and Schlesinger in microbiology, Parker and Atkinson in medicine, Kinsky in biochemistry, and Little and Graff at Jewish Hospital."

The immunologic community at Washington University also is being expanded by the addition of four new researchers, with whom Drs. Shreffler and David have had past collaborations. Dr. Carl Pierce, Welling Professor of Pathology and his wife Dr. Judith Kapp Pierce, Assistant Professor of Pathology, who have moved here from Harvard Medical School, have research interests in the functions of the H-2-controlled products that regulate immune responses.

Another husband-wife team, notes Dr. David, from the National Institutes of Health, Dr. Benjamin Schwartz and Dr. Susan Cullen, has joined the departments of medicine and microbiology, respectively. Their research is concerned with the study of the chemistry of the immune response gene products.

Says Dr. David: "Workers in many fields—microbiology, pathology, medicine, surgery—find common interests in the area of immunogenetics. We hope that this strong nucleus of top researchers in interrelated areas will lead to productive interactions and will help to attract outstanding young investigators and trainees in immunogenetics to Washington University."

Already, three postdoctoral fellows and four graduate students have entered into training with the new group, the Department of Genetics, and several more trainees are scheduled to join the laboratory in the next few months. In the spring, a graduate course in immunogenetics will be offered for the first time.

Says Dr. David, "We feel that we are making good progress toward our goal of establishing Washington University School of Medicine as a sort of mecca of immunogenetics."
Rising Crime Rate, Concern for Accused Breeds New Interest in Forensic Psychiatry

By Glenda King Rosenthal

What type of person commits a crime? Are there similarities in the backgrounds of criminals? What constitutes criminal responsibility at the time of a crime?

These and many more questions concern the forensic psychiatrist. A subspecialty of medicine concerned with the relationship between law and psychiatry, forensic psychiatry is a multifaceted area of expertise. The forensic psychiatrist is asked to deal with another discipline, the legal system. He must become familiar with legal methods and terminology in order to interpret his psychiatric analysis within the framework of the law. He may be called upon as an expert witness, conduct a pre-trial evaluation of the accused to determine criminal responsibility, or do a post-trial evaluation to determine if an individual is fit to return to society.

Forensic psychiatry is not a new field of study. However, with an escalating crime rate coupled with more concern for the rights of the accused, it is becoming an increasingly vital discipline.

Robert H. Vanderpearl, M.D. ’54, assistant professor of psychiatry, has been the director of the forensic psychiatry service at Malcolm Bliss Mental Health Center for five years. However, he has not always been involved with this area of medicine.

“I was going into internal medicine when I was in medical school, but I found taking care of elderly, dying patients to be terribly depressing,” he says. “I found children to have a remarkable ability to bounce back from a serious illness, so I spent three years in pediatrics and eventually went into private practice. It was a well-baby practice and I was going 24 hours a day. After a year of practice, I lost my zest and interest and started training in psychiatry. I originally intended to go into child psychiatry, but I felt on sounder ground with adults. I’ve been very pleased with my decision.”

In 1965 Dr. Vanderpearl became director of the in-patient service and emergency room service. When the forensic service had an opening for a clinical director, he eagerly accepted the position.

According to Dr. Vanderpearl, there are two major reasons why a person would be referred to the Malcolm Bliss Mental Health Center Forensic Service for psychiatric evaluation. If a suspect appears to be mentally unbalanced, the police will bring that person to Bliss. “The major reason, however,” says Dr. Vanderpearl, “is a court order for a pre-trial evaluation to determine whether or not the individual is fit to stand trial and whether or not he is criminally responsible.”

“ ‘Nature’ refers to the physical characteristic of the criminal act and ‘quality’ refers to whether or not the accused individual understands the consequences and seriousness of the criminal act.”

To determine an accused person’s competency and criminal responsibility, Dr. Vanderpearl has to work within the framework of the American Law Institute’s Model Penal Code. It states: “A person is not responsible for criminal conduct if at the time of such conduct as a result of mental disease or defect he did not know or appreciate the nature, quality or wrongfulness of his conduct or was incapable of conforming his conduct to the requirements of the law.”

Dr. Vanderpearl explains that “nature” refers to the physical characteristic of the criminal act and “quality” refers to whether or not the accused individual understands the consequences and seriousness of the criminal act. “The second half of the statute gets away from the idea of right and wrong and simply asks if the individual had an illness of such severity that he was incapable of conforming his conduct to the requirements of the law,” says Dr. Vanderpearl.

“One blatant example of this,” he says, “would be the case of the mentally retarded child who wanted to cut his roommate’s head off so he could watch the roommate look around for it in the morning. Obviously, the child did not understand the consequences of what he wanted to do.”

In order to determine competency to stand trial, Dr. Vanderpearl says he uses the same psychiatric approach he used before he became involved in the forensic sciences. “I obtain a history, physical examination, a mental status evaluation, I make ward behavior observations, and note the response to treatment if indicated. I have to determine if a person is currently mentally ill or mentally retarded. If not, then the defendant is automatically competent to stand trial. However, being mentally ill or mentally retarded does not necessarily indicate incompetence.”

According to Dr. Vanderpearl, there are four sources of information he can use to determine if a person was criminally responsible at the time of the alleged crime: 1) the suspect, 2) someone familiar with the accused, usually
a relative, 3) medical records, and 4) the police report.

"About 80 per cent of the people who come here for a pre-trial evaluation have been in a psychiatric hospital at some time in the past," Dr. Vanderpearl explains. "These previous medical records can help in getting a clearer picture, particularly when the hospitalization has come shortly after the alleged crime. The police report also can be helpful in describing unusual behavior at the time of the crime. For example, I had to deal with a man who had attempted to rob a bank. He casually walked outside of the bank before he was apprehended. Obviously, this is not rational behavior, indicating that he might not have understood the consequences of his act."

Psychiatrists have to concern themselves with the definition of disease. In referring to mental disease, Dr. Vanderpearl has to once again work within the context of the Missouri statutes. He says, "The statutes explicitly state that any person whose disease is characterized by anti-social behavior does not have a mental disease. People who are alcoholics or drug addicts do not have a disease, unless they have an organic brain syndrome. Sexual deviants also don't have a mental disease. There are certain types of mental diseases such as schizophrenia, depression, mania, and organic brain syndromes (like delirium tremors brought on by alcohol) that may render a person lacking in criminal responsibility." Mental retardation and chronic schizophrenia, he says, are the two disorders that one can safely say would still be present if they were present at the time of the alleged crime and constitute a mental defect or mental disease, respectively.

Dr. Vanderpearl says there are definitely cases in which the suspect is unfit to stand trial. He is currently seeing a 19-year-old man who has been in and out of institutions since he was 12. He finally was released and sent home, but shortly thereafter was accused of burglary. Dr. Vanderpearl describes the young man as being "quite combative and quite unable to stand trial. He'll become fit in a few weeks with treatment."

It also is important to remember, Dr. Vanderpearl points out, that just because someone was and/or is mentally ill does not mean they're not criminally responsible and not competent to stand trial. "If someone has anxiety neurosis or a mild depression, this will not affect their fitness to stand trial," says Dr. Vanderpearl. "An illness present at the time of the crime is not always relevant to the individual's criminal responsibility. Around 90 per cent of the examinations I do are concerned with fitness to stand trial, as well as criminal responsibility, and there are certain things I look for: does the individual know he's charged with a crime, does he understand the nature of the crime, does he know the possible consequences of conviction, does he understand the roles of the attorney and judge, does he have the capacity to operate, comprehend, relate factual information and behave appropriately in the courtroom, and is his choice of pleas not influenced by mental disease? Naturally, this is all related to the individual in very simple terms."

According to Dr. Vanderpearl, many people in authority feel the attorney is the person to decide whether or not the accused person is capable of standing trial. "After all, he has to go to court with the accused and he knows what he wants from him in the courtroom."

Dr. Vanderpearl's association with attorneys usually is done through a comprehensive report. "The attorney rarely comes and actually sits down with me. After I get through evaluating the accused individual, I dictate a report and three copies are sent to the circuit court administrator. The copies are then sent to the judge, the defense attorney and the circuit attorney. Usually I don't have to go and testify on the
A sociopath has a history of anti-social behavior. The sociopath shows signs of "getting into trouble" at a very early age, Dr. Vanderpearl explains. "His early life is characterized by running away from home, fights, expulsion from school, dropping out of school and early trouble with the police. He seldom holds a job for more than a few months before he quits or is fired. He usually has a history of several arrests, commonly starting out in juvenile court. This is apparently one of the best indicators of people who are going to be sociopaths. If he is in the military, he often ends up with a dishonorable or undesirable discharge."

"The sociopath usually is found in a lower socio-economic background, with his family broken by parental death, desertion or divorce. The father is more likely than usual an anti-social personality or an alcoholic, the mother an alcoholic or an hysterical. The sociopath often tends to marry an alcoholic, a drug addict or another sociopath." Dr. Vanderpearl observes, "These problems tend to run through families which becomes evident in doing a family study. This raises the question of genetics."

Dr. Vanderpearl explains that studies done in Denmark and the United States by members of the Psychiatric Department indicate that children of alcoholics separated from their biological parents early in life and raised by unrelated adoptive parents still show above average rates of alcoholism.

"The road to becoming an anti-social personality is somewhat predictable. That is precisely where the tragedy lies."

The road to becoming an anti-social personality is somewhat predictable. According to Dr. Vanderpearl, that is precisely where the tragedy lies: "These three personality disorders—sociopathy, alcoholism, and drug addiction—are ones we have not developed effective treatment for. There's really nothing we know of that can be done for sociopathy except await the passage of time. About 40 per cent of them settle down when they're about 45 years old and they either stop committing crimes or stop getting caught. Unfortunately, there really haven't been any treatment programs yet which have demonstrated satisfactorily that something can be done to prevent this behavior."

Other than sociopathy, alcoholism, drug addiction and some types of sexual deviation, there is no one psychiatric illness which can be associated with crime or vice versa. In comparison, other disorders play a very minor role.

Dr. Vanderpearl says that 40-50 per cent of the patients evaluated on the Forensic Service at Malcolm Bliss Mental Health Center are afflicted with one or more of these personality problems. "The remaining pre-trial patients do have a mental disease. Mentally ill
people who are before the courts are funnelled into here, so naturally we're going to see quite a bit of mental illness as compared with people in the penitentiary. Almost 90 per cent of people in penitentiaries have one of these three disorders."

Malcolm Bliss is a medium-security institution. Anyone needing maximum security while awaiting trial is sent to the Biggs Building of Fulton State Hospital in Fulton, Missouri. Cases at Biggs are there for evaluation purposes only unless an emergency arises; they're not supposed to be treated. In some of these instances, Dr. Vanderpearl travels to Fulton to determine if a patient has a mental disease and if he is fit to stand trial.

"I go to Fulton about twice a month and see patients there," Dr. Vanderpearl explains. "These people have criminal charges against them, and consequently the Biggs Building is a hospital built like a prison. There are about 50 televisions monitoring various points in the building. Escaping from Biggs would be almost impossible."

Dr. Vanderpearl says he has not been more anxious for his physical well-being on the forensic service than on the general psychiatric service. He says, "I've been hit by one patient at Malcolm Bliss. He was manic, I knew he was manic, and I made a mistake when I attempted to thwart him. When you do get hit, it's usually because you know darn well you did something wrong. Generally, mentally ill people are not menacing."

Many of the antisocial personalities Dr. Vanderpearl evaluates have had several psychiatric hospitalizations, oftentimes because of attempted suicides. This has allowed these individuals the opportunity to observe mental patients and learn something about their behavior. Because patients on the forensic psychiatry service are facing criminal charges, they may sometimes feign mental illness in order to avoid going to trial.

Dr. Vanderpearl recalled a particular case concerning a man who had been hospitalized for over a month and was receiving huge doses of Thorazine. "I received a court order to evaluate this man who claimed to be hearing voices. He said he used to think the voices were real, and although he no longer felt that way, he still claimed to hear them. This is not the natural resolution of hearing voices one would see in schizophrenia or organic brain syndrome. This made me strongly suspect that this man was faking. He was tak-
"I feel very strongly that if someone is mentally ill, he ought to be treated and rendered fit to stand trial rather than remain untreated, reported to the court as incompetent, and then wait for weeks or months for the court to get around to declaring him unfit to stand trial. This brings up the problem of statutes which aren’t comprehensive. The statutes remain silent about treatment. We need a new statute authorizing immediate treatment."

Another problem is in the area of varying legal and medical definitions. "Under the law, sociopathy, alcoholism, and drug addiction are not included as a mental disease. Psychiatrists technically classify them as a personality disorder. The legal and medical definitions are very different."

Ing a strong enough dosage of Thorazine to make a normal person sleep all day, but when we tested his urine it was completely negative for medication. He’d been spitting it out or getting rid of it in some way. The man was a sociopath and used to shoot amphetamines, causing a psychosis once, so he knew a little about what delusions were like. He had already been in prison two times and was terrified about the sentence he was going to receive this time. I handled the problem by going to him and telling him he was going to be returned to the sheriff’s custody. He, of course, raised the question of his illness and I told him I knew he was faking. He said, ‘what did I do wrong?’

Another case concerned a sociopath. Dr. Vanderpearl was seeing for a pretrial evaluation at the Biggs Building. "He was a massive man with an extensive history of anti-social behavior. He anxiously told me people were trying to kill him. This is completely the opposite way a paranoid schizophrenic would tell someone their life is being threatened. They would say it in a very matter-of-fact way, expressing little concern or feeling. This man also showed inappropriate laughter, but nothing like the laughter of a paranoid schizophrenic. He feigned mental illness in an attempt to get out of receiving a long sentence and in order to avoid what he considered to be a dangerous situation. He wanted to stay at Biggs to avoid prison violence and he felt he would be out of circulation for a shorter period of time."

The reverse situation is occasionally seen. According to Dr. Vanderpearl, some accused people will attempt to feign mental illness because they feel they’ll spend less time in prison than they would in an institution. These people will not allow their attorney to enter a plea of not criminally responsible. "These people usually have no insight," Dr. Vanderpearl says. "Because of his mental illness, his choice of defense is influenced. He doesn’t realize he was mentally ill at the time of the crime and certainly doesn’t realize it now. A person who denies his illness is not fit to stand trial."

Dr. Vanderpearl feels the major problem in forensic psychiatry over the past few years has been the lack of statutory authority to treat a patient with a court order for evaluation as to competency to stand trial and criminal responsibility. If the person is ill, he can only be treated for emergency reasons. He feels this is an abusive practice against the defendant and sees nothing to be gained by leaving the defendant untreated.

"I feel very strongly," he says, "that if someone is mentally ill, he ought to be treated and rendered fit to stand trial rather than remain untreated, reported to the court as incompetent, and then wait for weeks or months for the court to get around to declaring him unfit to stand trial. This brings up the problem of statutes which aren’t comprehensive. The statutes remain silent about treatment. We need a new statute authorizing immediate treatment."

Another problem is in the area of varying legal and medical definitions. "Under the law, sociopathy, alcoholism, and drug addiction are not included as a mental disease," Dr. Vanderpearl explains. "Psychiatrists technically classify them as a personality disorder. The legal and medical definitions are very different."

Dr. Vanderpearl lectures on forensic psychiatry and currently is involved in a research project to determine the outcome in court of defendants reported as incompetent to stand trial. He is also interested in the areas of psychotherapy and psychopharmacology, which is the treatment of mental disease with various types of medication. Dr. Vanderpearl says, "I consider myself more of a teacher, than a researcher."

Dr. Vanderpearl has been very pleased with his decision to leave pediatrics and join the staff of Malcolm Bliss and the Psychiatry Department. He says, "I get a tremendous amount of satisfaction out of helping the mentally ill. I get the broad span of clinical psychiatry, and in forensic psychiatry I also have the added dimensions of law and statutes. The law is very exact; psychiatry is very subjective by nature. It’s fascinating and rewarding. This is the main reason I went into the field."
A major difficulty in preparing these annual reports is deciding which to note of the many activities ongoing at the Washington University Medical Center. One has to choose from a rich array of interesting and important programs in each of our seven institutions.

This year’s summary of our redevelopment project is reported with a healthy respect for the complexities of urban restoration. It is hard to believe how much work can be involved before any construction can begin.

As in the past, the report will touch briefly on Medical Center planning, highlight major construction projects, and review accomplishments in patient care, research and teaching.

Table I: WUMC Expenditures (in millions of dollars) Fiscal 1975

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<td>Barnes Hospital (1)</td>
<td>.9</td>
<td>.02</td>
<td>.7</td>
<td>58.4</td>
<td>.4</td>
<td>12.6</td>
</tr>
<tr>
<td>The Jewish Hospital of St. Louis</td>
<td>7</td>
<td>2.0</td>
<td>23.9</td>
<td>58.4</td>
<td>.4</td>
<td>12.6</td>
</tr>
<tr>
<td>St. Louis Children’s Hospital</td>
<td>21.9</td>
<td>2.0</td>
<td>26.1</td>
<td>58.4</td>
<td>4</td>
<td>12.6</td>
</tr>
<tr>
<td>Central Institute for the Deal</td>
<td>23.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington University School of Medicine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>32.7</td>
<td>1.5</td>
<td>34.2</td>
<td>58.4</td>
<td>.3</td>
<td>4.1</td>
</tr>
</tbody>
</table>

(1) Includes Barnard Free Skin and Cancer Hospital
Two years have passed since the City of St. Louis approved the Washington University Medical Center redevelopment plan. During this period, over $31 million in construction projects have been started or committed.

- Work on the $12 million Blue Cross headquarters on Forest Park Boulevard is ahead of schedule and should be completed before the end of the year.
- Also on Forest Park Boulevard, the Commerce Bank of Mound City opened a new banking facility this year, representing an investment of about $400,000.
- A $6 million housing development for the elderly, containing 240 rental units, at Forest Park Boulevard and Newstead Avenue, is scheduled to begin construction this fall.
- In July, Monsanto Corporation announced its plan to build a $12 million research laboratory on four acres at the northwest corner of the intersection of Clayton and Newstead Avenues. This is a major new element in our redevelopment.
- The St. Louis City Community Development Agency has committed nearly half a million dollars for street improvements in the redevelopment area. The work is scheduled to begin early next year.
- Setting an example with its own administrative quarters, the redevelopment staff recycled a three-story stone house at 4390 West Pine Boulevard for use as its office.
- The 4400 block of Laclede Avenue has attracted considerable interest from individual investors. Sixteen projects are already slated for rehabilitation into single family townhouses.
- On Euclid Avenue, just north of Forest Park Boulevard, a new restaurant has recently opened.
• The School of Medicine's Division of Radiation Oncology has completed a major renovation of new quarters in the Medical Building at 4511 Forest Park Boulevard.

• The Central Institute for the Deaf has remodeled an adjacent building into a Parent-Infant Demonstration Home that serves as a model for such facilities.

A less visible but essential element of the Redevelopment Program has been the involvement of our staff in the community.

• In the area south of Highway 40, the Redevelopment Corporation staff has been instrumental in helping form a coalition of 70 property owners. This group meets monthly, and a program to enhance neighborhood identity, security, public amenities, and property values is well under way.

Our considerable achievements may be attributed to the cooperative spirit of the community, the dedication and skill of our staff, the continued support from our member institutions, and the wise counsel from our boards of directors.

<table>
<thead>
<tr>
<th>Year</th>
<th>Beds</th>
<th>Discharges</th>
<th>Days of Care</th>
<th>Clinic and Emergency Room Visits</th>
<th>Amount of Free Patient Care Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>1,792</td>
<td>56,746</td>
<td>597,132</td>
<td>216,519</td>
<td>$4,680,330</td>
</tr>
<tr>
<td>1972</td>
<td>1,862</td>
<td>61,730</td>
<td>623,817</td>
<td>231,029</td>
<td>$6,339,298</td>
</tr>
<tr>
<td>1973</td>
<td>1,850</td>
<td>62,392</td>
<td>640,750</td>
<td>258,259</td>
<td>$5,443,955</td>
</tr>
<tr>
<td>1974</td>
<td>2,006</td>
<td>64,603</td>
<td>654,860</td>
<td>270,576</td>
<td>5,723,054</td>
</tr>
<tr>
<td>1975</td>
<td>1,947</td>
<td>312,404</td>
<td>3,159,948</td>
<td>1,254,301</td>
<td>7,963,832</td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td></td>
<td></td>
<td>1,254,301</td>
<td>$30,300,369</td>
</tr>
</tbody>
</table>
The update of the Community Unit Plan prepared for the Board of Public Service of the City of St. Louis each year again shows growth in the Medical Center. Additional land acquisitions have extended the area covered by the Center to 52 acres. Within the Center, more than $100 million of new construction over the next five to eight years has been committed or is in an advanced state of planning by member institutions.

At Barnes Hospital, a 1200-car, underground garage is now complete and is being used by staff and visitors. Nearing completion is a service facility replacing the old #4 building. The new structure is to be named for Mr. and Mrs. Henry W. Peters, Barnes benefactors. The building will house a variety of support facilities and administrative offices. Construction will begin shortly on the West Pavilion to be located in front of Rand Johnson and west of the East Pavilion. The new structure will house patient care floors, doctors' offices, operating room facilities, administrative offices, radiological services, and support services.
After several years of study, Children's Hospital is moving forward with plans for a 16-story patient tower anchored in the median of Kingshighway Boulevard. The building is planned to contain 18,000 square feet per floor. A bill is before the Streets and Wharfs Committee of the St. Louis Board of Aldermen to authorize the project to proceed.

With completion of the new Shoenberg Pavilion, Jewish Hospital is renovating its existing buildings. Extensive remodeling is under way in the Kingshighway Pavilion. Facilities are being enlarged and renovated. In addition, the hospital's emergency room is to be relocated and expanded.

The Barnard Hospital board has recently agreed to the construction of a second cyclotron by Mallinckrodt Institute of Radiology adjacent to the existing cyclotron in Barnard Hospital. There specialized facilities are of vital importance in the expansion of research and treatment in a wide variety of fields including oncology, neurobiology, cardiology, metabolism, and others.

The Central Institute for the Deaf, as already noted, has renovated a residence at 4576 Clayton Avenue into a Parent-Infant Demonstration Home.

| Table III. Care Provided by Washington University Medical Center—1975
<table>
<thead>
<tr>
<th>Hospitals</th>
<th>Beds</th>
<th>Discharges</th>
<th>Days of Care</th>
<th>Average Length of Stay</th>
<th>Clinic and Emergency Room Visits</th>
<th>Amount of Free Medical Services Provided #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnes Group (1, 2)</td>
<td>1,196</td>
<td>42,148</td>
<td>387,994</td>
<td>9.2</td>
<td>155,945</td>
<td>$2,746,068</td>
</tr>
<tr>
<td>The Jewish Hospital of St. Louis (3)</td>
<td>567</td>
<td>17,611</td>
<td>175,274</td>
<td>9.6</td>
<td>51,935</td>
<td>1,383,764</td>
</tr>
<tr>
<td>St. Louis Children's Hospital (4)</td>
<td>182</td>
<td>7,006</td>
<td>56,691</td>
<td>8.1</td>
<td>65,568</td>
<td>3,234,000</td>
</tr>
<tr>
<td>Central Institute for the Deaf (5)</td>
<td>1,947</td>
<td>66,933</td>
<td>23,430*</td>
<td>643,389</td>
<td>4,470</td>
<td>540,000</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>5,092</strong></td>
<td><strong>187,802</strong></td>
<td><strong>767,930</strong></td>
<td><strong>9.0</strong></td>
<td><strong>277,918</strong></td>
<td><strong>$7,963,832</strong></td>
</tr>
</tbody>
</table>

*Students attending School Division of C.I.D.
**Days of attendance at School Division of C.I.D.
#Excluding free professional care provided by medical staffs of the Center

(1) Barnard Free Skin and Cancer Hospital, Barnes Hospital, Lenox Hospital, David P. Wohl Jr. Memorial Hospital, David P. Wohl Jr. Memorial Washington University Clinics
(2) From Mr. Robert E. Frank, President, Barnes Hospital
(3) From Mr. David A. Gee, President, The Jewish Hospital of St. Louis
(4) From Mr. Lynn B. Perkins, Executive Director, St. Louis Children's Hospital
(5) From Dr. Donald R. Calvert, Director, Central Institute for the Deaf
Central west end corridor—traffic study area.
The School of Medicine completed renovation of the auditorium in Wohl Hospital this year, transforming the basement facility into a modern inviting center for meetings, classes, and seminars. Soon to get under way will be Phase 2 of the Medical Care Group's construction program. This project will result in the completion of about 6800 square feet of shell space on the first floor of the Medical Care Group building and the addition of about 2800 square feet of new space on the second floor. The additional space will house new examining rooms, a library, a seminar room, and administrative offices.

This year, the Schools of Medicine and Dental Medicine jointly purchased the old A & P bakery at 4570 Scott Avenue. The building contains about 120,000 square feet of space on four levels. Plans for its use are being developed.

The continued expansion of facilities, associated with more services, more patients, more visitors, and more staff, focuses attention on the problems of accessibility to the Medical Center. Computer modeling, part of the current St. Louis Central Corridor traffic study, suggests that in twenty years traffic around and within the Medical Center will exceed the capacity of the present street system. Questions concerning where to park and how to arrive at or depart from the Medical Center will need to be answered. We hope that the master traffic plan being developed by an ad hoc committee representing the Medical Center, the Medical Center Redevelopment Corporation, Manchester-Chouteau Redevelopment Corporation, the St. Louis Streets Department, and the East-West Gateway Coordinating Council will provide the guidance and strategy we need.

### Table IV
Greater St. Louis Outpatient Visits to Selected Hospital Clinics—1975

<table>
<thead>
<tr>
<th>Hospital</th>
<th>New Patient Visits</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington University Medical Center (1)</td>
<td>29,163</td>
<td>53</td>
</tr>
<tr>
<td>City Hospitals (2)</td>
<td>9,305</td>
<td>11</td>
</tr>
<tr>
<td>Saint Louis University (3)</td>
<td>6,345</td>
<td>12</td>
</tr>
<tr>
<td>St. Louis County Hospital</td>
<td>6,449</td>
<td>7</td>
</tr>
<tr>
<td>Other (4)</td>
<td>3,834</td>
<td>100%</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>55,096</td>
<td>55</td>
</tr>
</tbody>
</table>

**Physician-Patient Visits Number**

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington University Medical Center (1)</td>
<td>116,129</td>
<td>66</td>
</tr>
<tr>
<td>City Hospitals (2)</td>
<td>541,142</td>
<td>21</td>
</tr>
<tr>
<td>Saint Louis University (3)</td>
<td>53,906</td>
<td>13</td>
</tr>
<tr>
<td>St. Louis County Hospital</td>
<td>80,509</td>
<td>10</td>
</tr>
<tr>
<td>Other (4)</td>
<td>60,627</td>
<td>100%</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>36,153</td>
<td>100%</td>
</tr>
</tbody>
</table>

**David P. Wohl, Jr. Memorial—Washington University Clinics (5)**

<table>
<thead>
<tr>
<th>Hospital</th>
<th>New Patient Visits</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Jewish Hospital of St. Louis</td>
<td>29,163</td>
<td>53</td>
</tr>
<tr>
<td>St. Louis Children's Hospital</td>
<td>175,654</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Hospital Association of Metropolitan St. Louis, Patient Statistics, 1975

(1) Washington University Medical Center
(2) Horner G. Phillips Hospital - Max G. Starkloff Hospital
(3) Saint Louis University Hospital - Cardinal Glennon Hospital
(4) Deaconess Hospital - Lutheran Hospital - Missouri Baptist Hospital - St. John's Mercy Hospital - St. Mary's Hospital
(5) Barnes Hospital
Educational Programs and Research

The total number of students enrolled in formal educational programs at the Medical Center institutions showed only a slight increase in 1975 (2246) compared to 1974 (2218).

The combined teaching, research, and clinical resources of the Medical Center provide a rich environment for learning. In this setting, Medical Center students from different disciplines often can work and study together. Examples of such teamwork may be seen in the rehabilitation programs at the Irene Walter Johnson Institute of Rehabilitation and on the Jewish Hospital Rehabilitation Medicine Service. Each facility provides a strong teaching program in which student physicians, student therapists, student nurses, student social workers, student speech pathologists, and others learn to work as a team to provide comprehensive restorative programs for patients suffering from a wide assortment of problems. Similar opportunities for training and teamwork are provided by the Medical Center's Cleft Palate and Hand Clinics.

Our commitment to research continues. There are nearly 450 active research and research training grants in the School of Medicine. More than $26 million was spent for research in fiscal 1975 by Medical Center institutions.
Special Note
Dr. Hallowell Davis, Director of Research Emeritus of the Central Institute for the Deaf, will be awarded the highly coveted National Medal of Science this year by President Ford for Dr. Davis' internationally recognized pioneering studies in hearing and deafness.

Table V
Teaching Responsibility of the Washington University Medical Center—1975

<table>
<thead>
<tr>
<th>Medical Students</th>
<th>101</th>
<th>501</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Students in Biomedical Sciences</td>
<td>84</td>
<td>20</td>
</tr>
<tr>
<td>Students in Postdoctoral Educational Programs Interns</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Residents Postdoctoral Fellows and Trainees</td>
<td>33</td>
<td>155*</td>
</tr>
<tr>
<td>Total Students in Allied Health Professions W.U. Barnes Jews</td>
<td>45</td>
<td>41</td>
</tr>
<tr>
<td>C.I.D. W.U.</td>
<td>55</td>
<td>46</td>
</tr>
<tr>
<td>TOTALS</td>
<td>843</td>
<td>2,246**</td>
</tr>
</tbody>
</table>

*Two-year program
**This total does not include 248 students in the School of Dental Medicine and 714 students at the St. Louis College of Pharmacy who are in training in close proximity to Medical Center institutions. Also not included are a host of students—nurses, social workers, therapists, health care administrators and others who use Medical Center institutions for clinical training.
Although the Medical Center provides primary care and functions as a hospital to its community, its most distinctive role is to provide highly specialized tertiary care to the entire region. An important indicator of such service is the number of intensive care units in Medical Center hospitals. Currently there are 15 such units, in which highly trained health professionals work with the most advanced biomedical equipment to provide total care for the sickest and most difficult patients. Further, in many cases, the sophisticated monitoring equipment used was developed in the computer facilities of the School of Medicine. During the past year, 38,673 days of care were rendered in the intensive care units, about 6 per cent of the total days of care.
## Table VI
Care Provided by WUMC to Patients from Outside Metropolitan St. Louis—1975

<table>
<thead>
<tr>
<th>Institution</th>
<th>Discharges</th>
<th>Number from Outside Metro. Area (1)</th>
<th>Percent from Outside Metro. Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnes Hospital (2)</td>
<td>17,611</td>
<td>1,221</td>
<td>7</td>
</tr>
<tr>
<td>The Jewish Hospital of St. Louis</td>
<td>7,006</td>
<td>1,282</td>
<td>18</td>
</tr>
<tr>
<td>St. Louis Children’s Hospital</td>
<td>66,765</td>
<td>12,824</td>
<td>19</td>
</tr>
<tr>
<td>TOTALS</td>
<td>42,148</td>
<td>10,321</td>
<td>25</td>
</tr>
<tr>
<td>Central Institute for the Deaf</td>
<td>168 (3)</td>
<td>317</td>
<td></td>
</tr>
</tbody>
</table>

(1) Outside St. Louis Standard Metropolitan Statistical Area. This statistical base is used for the first time in this year's report.
(2) Includes Barnard Free Skin and Cancer Hospital.
(3) Students attending School Division. C.I.D.
Conclusion

We continue to meet our varied responsibilities to our patients, students, staff, and community. We are a most complex institution, yet we have the flexibility and adaptability required to do our jobs and fulfill our goals. We can do better, and we will, but our record thus far warrants due pride and satisfaction.

Table VII.

<table>
<thead>
<tr>
<th>Number of Employees</th>
<th>Expenditures in Millions for Salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,977</td>
<td>36.8</td>
</tr>
<tr>
<td>2,927</td>
<td>18.6</td>
</tr>
<tr>
<td>648</td>
<td>5.7</td>
</tr>
<tr>
<td>138</td>
<td>1.3</td>
</tr>
<tr>
<td>2,716</td>
<td>29.4</td>
</tr>
<tr>
<td>9,500</td>
<td>91.8</td>
</tr>
</tbody>
</table>

(1) Full-time equivalents
(2) Includes Barnard Free Skin and Cancer Hospital
(3) Includes both full time and part-time employees. Does not include 601 part-time faculty.
Newstead and Forest Park.

Artist's perspective from Laclede and Newstead avenues of a housing project for the elderly proposed for the Washington University Rehabilitation Corporation area.
Washington University Medical Center Alumni Association
Executive Council 1976-77

Seated: Drs. John F. Bergmann '54, vice president; Mary L. Parker '53, president-elect; W. Edward Lansche '52, president; George B. Rader '51, past president; Gordon W. Philpott '61, secretary-treasurer.


Other members not present: Drs. Thomas F. Richardson '63, James C. Ellsasser '64, Benjamin F. Smith, Jr. '45, John W. Ubben '45, Donald H. Finger '50, John C. Herweg '45 and former house officers Charles Roper, Fred D. Bauschard, Lee T. Ford, and Charles H. Rammelkamp, Jr.
Alumni, Faculty Nominations Sought For '77 Awards

Nominations are being sought for the annual Alumni Citations and Faculty Awards to be presented by the Alumni Association during Founders Day Oct. 8, 1977.

Faculty Awards are presented to teachers who have shown unusual insight and responsiveness in their relationships with their students and who have demonstrated a genuine and continuing concern for education. Last year's recipients were: Raymond Calahan, professor of education; Ronald Carlson, professor of law; David Gutsche, professor and chairman of the Department of Chemistry; Morton Carlson, professor of education; Ronald Paine, professor of music.

Alumni Citations are presented to alumni who have demonstrated success and achievement in their major field and who have made significant contributions in the areas of public service. Recipients of the 1976 Alumni Citations were: Lois Blackwell, president of the American Diabetes Association and members of the Committee, Drs. Samuel D. Soule, Henry C. Allen and Robert Wykes, professor of music.

Names Make News

Thomas B. Ferguson, M.D., clinical professor of cardiothoracic surgery at Washington University School of Medicine, is a representative from the American Board of Medical Specialties to the Coordinating Council on Medical Education (CCME).

Allen P. Klippel, M.D., Clayton, Mo., has been elected to a two-year term on the American Board of Emergency Medicine (ABEM). Dr. Klippel is director of Emergency Medicine at St. Louis County Hospital and assistant professor of surgery at Washington University School of Medicine.

Robert G. Roeder, Ph.D., professor of biological chemistry, Washington University School of Medicine, has been awarded the Eli Lilly Award in Biological Chemistry.

The award was established in 1934 by Eli Lilly and Company and is administered by the division of biological chemistry of the American Chemical Society. Recipients of the award are persons 36 years old or younger who have accomplished outstanding research in biological chemistry of unusual merit.

Richard E. Ostlund, M.D., assistant professor of medicine, has ranked first among the American Diabetes Association's eleven Promising Young Investigators, and as first was named the Elliott P. Joslin Research and Development Award Fellow for 1976-77, receiving a stipend of $16,448. Dr. Ostlund also was awarded $10,000 by the Association to conduct diabetes research on "Secretory Contractile Proteins."

Walter S. Zawalich, Ph.D., pediatric research associate, was awarded a grant of $10,000 for research on "Starvation as a Model of Reversible Experimental Diabetes."

In the past 14 months, Washington University has received $166,440 from the American Diabetes Association and its local affiliates.

Alumni Giving Shows Increase in 1975-76

Under the chairmanship of Jack Barlow, Medical Alumni Annual Giving last year increased 12 per cent. More than 1,300 physicians made gifts to our School. Their outstanding participation enables the School of Medicine to maintain its leadership above all other Schools and Departments in the University. This is indeed a noteworthy achievement and verifies the fact the Medical Alumni have deep interest in the activities of the School by underwriting the development of medical education with their financial support.

I am fortunate to have joining me on the AAG Committee during the upcoming year of 1976-77: Dr. Gordon W. Philpott, president of the Century Club, and members of the Committee, Drs. Phillip Comens, Charles R. Gulick, Kenneth A. Koerner, Robert Paine, Samuel D. Soule, Henry C. Allen and Ronald G. Evans. Dr. Ed Lansche, president of the Medical Center Alumni Association, Dean M. Kenton King and Vice Chancellor Samuel B. Guze have agreed to serve as ex officio members of the Committee.

We hope to build on the excellent foundations established through membership drives in the Century Club in various cities throughout the nation. We feel that the School has made a concentrated effort to maintain its leadership role and to build on the national prominence the School has achieved.

I urge all to assist in this effort by contributing to the current Alumni Drive.

Heinz E. Haffner, M.D.
Chairman, Alumni Annual Giving School of Medicine
Evens Defends Body Scanner On Today Show

Ronald G. Evens, M.D., Elizabeth Mallinckrodt Professor and Director of Mallinckrodt Institute of Radiology was a guest on the NBC "Today" show, Oct. 18. Dr. Evens was asked to appear because of his role as an authority in computed tomography scanning and because of the leadership of Mallinckrodt Institute in the development of diagnostic procedures utilizing this new scanning technique. The interview was conducted by Dr. Frank Field, science editor for the NBC network, and Tom Brokaw, host of the "Today" show.

Dr. Evens appeared with Dr. Sidney Wolfe who represented a group called Public Cause, and Dr. David Banta of the Technological Assessments Office. Dr. Wolfe cited the body scanner as being too expensive for the general public, with the value of it as yet unproven.

Dr. Evens was invited to present the other side of the issue. He emphasized that there is quality control of the body scanner in an institution such as Mallinckrodt, making it impossible to use it as a "get rich" measure. The value of the scanner as a non-invasive approach to treatment also was discussed. Dr. Evens cited the example of a young boy at Children's Hospital who avoided a painful pneumoencephalogram through use of the body scanner. This diagnostic procedure would have entailed an x-ray picture of the brain taken after replacement of the cerebrospinal fluid by air or gas.

However, Dr. Evens did emphasize that "the scanner is not infallible and definitely not a panacea. People occasionally might expect too much from it. It's certainly not the same thing as taking your car through a diagnostic clinic."

The Mallinckrodt Institute of Radiology is one of the largest and most progressive institutions of its kind. It was established in 1931 and now has a modern research, diagnostic and treatment facility covering more than 100,000 square feet on thirteen floors.

The Mallinckrodt Institute was one of the first institutes to receive an EMI brain scanner and later an EMI body scanner. The Institute currently has two machines of each type which perform thirty-five computed tomography scans daily.

Wesley J. Barta, vice chairman of the board of Chromalloy American Corporation, and Dr. Eduardo Slatopolsky, director of the Chromalloy American Kidney Center at Washington University visit with a patient. Barta recently presented a check for $61,000 to Dr. Slatopolsky, bringing the Chromalloy American Corporation's contributions to the Kidney Center to $521,000.
Hallowell Davis, M.D.

Physician, Researcher Celebrates 80th Birthday By Receiving National Medal of Science

Hallowell Davis, M.D., research professor emeritus of otolaryngology and professor emeritus of physiology, is a man of many distinguished accomplishments. He has contributed greatly to the fields of neurophysiology, neurology, otolaryngology, audiology, acoustics, occupational and military health, and pediatrics. No young scientist in any of these fields could complete his studies without encountering the research and writings of Hallowell Davis.

Dr. Davis' latest and most prestigious award is the National Medal of Science. He was designated by President Gerald R. Ford as one of the 1975 recipients and received his medal at a White House ceremony in September.

The National Medal of Science is the nation's highest award for those who have made distinguished contributions in science and engineering. Since 1962, it had been awarded to 102 scientists and engineers. President Ford, assisted by a committee of scientists and engineers, selected fifteen additional distinguished Americans to receive the medal for 1975.

Dr. Davis, who was 80 years old this summer, received his undergraduate and M.D. degrees from Harvard University. He holds honorary doctorate of science degrees from Colby College, Northwestern University and Washington University. He was on the faculty at Harvard Medical School until 1946 when he joined the Central Institute for the Deaf as Director of Research. Dr. Davis resigned from this position eleven years ago. Since that time he has spent nearly all of his research time developing a method of measuring the hearing of children too young or too active to be tested by conventional methods. The instrument combines a brainwave machine with a small computer, and thus can measure the brain's response to sound. A new model, which has recently been installed at St. Louis Children's Hospital, is considered by Dr. Davis to be the first really satisfactory device of its type.

Dr. Davis has contributed greatly in
other areas of research. Through his study of the neurophysiology of the ear, he and Dr. Galambos described the first “response areas” of single auditory neurons. Earlier he had developed the first American ink-writing electroencephalograph, presented the first demonstration in America of brain waves, and developed the description of normal EEG patterns in waking and sleep. During World War II he studied the relationship between noise exposure and resulting hearing loss in both man and animals. These studies on noise-induced hearing loss are now considered to be the classic work in this area. Other areas of Dr. Davis’ research include the design objectives and the principles of selection of hearing aids and the development of speech audiometry.

Dr. Davis has served as president of the Acoustical Society of America and of the American Physiological Society, as well as the American Electroencephalographic Society. He is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and many professional societies. Dr. Davis has received many scientific awards, including gold medals from the American Otological Society and the Acoustical Society of America. He also has received an award for hearing research from the Beltone Institute and the International Amplifon Award. He is a member of Sigma Xi, Phi Beta Kappa, and Alpha Omega Alpha.

Even though Dr. Davis officially retired from his duties at the Central Institute for the Deaf eleven years ago, he still spends the greatest part of his time on his hearing research and its clinical application. Dr. Davis considers the National Medal of Science to be the greatest honor he has received.

“I know that some of my associates must have worked hard to get me this award,” Dr. Davis says. “I like to feel I received this award for doing something that makes a difference.”

The colleagues with whom Dr. Davis has been associated with over the years have a deep respect for him both as a scientist and as a man. He is regarded as a kind, modest man with a deep sense of integrity, a quick wit, and an impressive command of the language. He is a man who has touched many lives and greatly influenced those who have known him.

Shirley K. Hirsh, Donald H. Eldredge, Ira J. Hirsh and S. Richard Silverman, colleagues of Dr. Davis for many years, have edited a book entitled Hearing and Davis in honor of Dr. Davis’ 80th birthday. The book is a collection of essays written by former associates of Dr. Davis. The title of the book, Hearing and Davis, is derived from the fact that over the past four decades the two have become synonymous.
His colleagues have come to know Dr. Davis as a man whose actions are consistent with his beliefs. These beliefs were stated by Dr. Davis himself in a radio program called "This I Believe" hosted by the late Edward R. Murrow. Dr. Davis' statement is reprinted from Hearing and Davis as follows:

I speak as a scientist. I believe in man. I believe in man as a part of nature. Nature includes the physical universe, the life of plants and animals and man, and also the mind and thoughts of man. I believe in nature's laws—impersonal and merciless, but reliable. I believe that man can learn enough of nature's laws to shape his destiny, but nevertheless his destiny must remain within the bounds of nature's laws.

It is man's fate to struggle for existence with other living things and with himself. It is man's privilege to rule this planet for many millions of years if he is able. The survival of mankind is the yardstick by which I measure good and bad. The struggle for existence is not easy, nor can I be sure we will succeed. I believe that man is on his own. He can learn to control and use some of nature's forces and perhaps even to control himself. But I also believe that man may fail, and may destroy civilization and possibly even life itself by his own acts.

So I believe it is my duty and privilege to learn what more I can about the ways of nature and man. It is not only enough to learn, new knowledge must be shared if it is to help mankind. Here, I believe, is our immortality, what we teach to those who follow us. There are also ways of life that I believe are good. They are not taught by word of mouth alone, but also by example. Everyone has his own list, I am sure, but here is mine:

I believe in the integrity of speech; let thy yea be yea and thy nay be nay.

I believe in tolerance, and freedom of thought and speech, and in the golden rule. These rules begin at home but should also extend to national laws and policies.

I believe in respect for law, but this assumes of course that man-made laws must contain within themselves the rules for lawful change. Readiness for change is fully as important as respect for law and tradition. Conditions change, evolution is part of nature's law.

I believe in patience, evolution is slow. Individuals change only a little. Young liberals become moderate conservatives. Extremists do not change, but fortunately they fade away.

I believe deeply in the brotherhood of man, of all mankind. I do not like the alternative theory of a master race or a master class. When I speak of the survival of the human race, I mean the entire human race, not only the yellow, the brown, the black, or the white.

But I also believe that the human race cannot continue to increase and multiply indefinitely, and I see great danger that the struggle for subsistence will set race against race, and nation against nation, in a series of wars to the death. Here I believe lies the greatest challenge of the future. Can mankind realize the ideals of tolerance and cooperation at the racial and national level, and can control of the world's population be achieved without recurring war, pestilence, and famine? Frankly, I believe that the chances are poor in our era. It may happen after the next great glacier has come and gone, or it may never happen. But this I believe and believe with all my heart, it is possible that it can happen and that our efforts today and the examples of our lives can make it more likely. On this possibility I stake my faith. I still believe in man.
A New Beginning for 120 Freshmen Medical Students

On Monday, August 30, 1976, 120 carefully selected young men and women began their undergraduate medical education at Washington University. Actually these students had spent the five previous days in an organized orientation program designed to facilitate their rapid adaptation to a new environment. Beginnings are wonderful but a bit frightening; exciting and stimulating and yet awesome. Am I really here? Am I really starting? Can I do the work? The answer to each is a resounding “Yes!”

These 120 fortunate students were selected from 6,078 applicants to the 1976 entering class. The 16-member Committee on Admissions chose them on the basis of their outstanding academic records, strong recommendations, excellent personal interviews and high scores on the Medical College Admissions Test. The class includes 27 women and 93 men. Sixteen are from Washington University undergraduate school and 13 students are from minority groups currently under-represented in American medicine. They come from 31 states; 18 are residents of Missouri. Five are sons or daughters of Medical School alumni or faculty and staff members.

The Class of 1980 is indeed heterogeneous. They attended 77 different U.S. colleges and universities, large and small. The largest contingent traditionally comes from the Washington University undergraduate school. This year there are seven students from Yale University; four each from Northwestern and Notre Dame Universities; three each from Johns Hopkins, Emory,
Cornell, Brown and St. Louis Universities; two each from Massachusetts Institute of Technology and from Swarthmore, Southern Methodist, Kansas, Wisconsin, Stanford, Oregon, Tufts, Colorado, California State and Indiana Universities and two each from the State University of New York-Albany and Oberlin College; single students came from each of 55 other institutions. Their college majors include biochemistry, biomedical engineering, biology, biomathematics, chemistry, economics, electrical engineering, English, foreign language, literature, mathematics, microbiology, medical technology, natural science, physics, philosophy, political science, psychology and sociology.

This is an exciting and stimulating group of young people. A large and extremely competent cadré of full-time and part-time faculty members will guide and assist them in their learning experiences. Faculty and their younger colleagues, our students, have their tasks cut out for them. In just about 1,350 days these 120 students are scheduled to graduate as Doctors of Medicine. We welcome them as the newest members of our Medical School "family," and we wish them well.

John C. Herweg, M.D., Associate Dean

A. Maxine Myers gets her picture taken during freshmen orientation.

B. Bill Kane may find it difficult to participate in anatomy lab until his two broken arms heal.

C. Audrey Cobb reads over her registration form.

D. Freshmen students wait in line to go on the Huck Finn for a welcoming party sponsored by the Alumni Association.

E. Dean M. Kenton King, M.D., talks with new students during the Dean's luncheon in Olin Hall Penthouse.
Freshmen students enjoy themselves aboard the Huck Finn.
Class Notes

'20s
Frederick A. Jacobs, '28, Ferguson, Mo., retired from the practice of pediatrics in May.

'30s
Laurence G. Pray, '35, Palm Desert, Calif., has been named recipient of the Sioux Award, the highest honor given by the Alumni Association of the University of North Dakota, for his work in pediatrics.
Richard A. Sutter, '35, St. Louis, has been appointed by Gov. Christopher Bond to serve on the Governor's Advisory Council for Workmen's Compensation. The council was established to inform the Governor of federal legislation and activities affecting the state's Workmen's Compensation System and for the preparation of legislation to be presented to the General Assembly.

'40s
James A. Kinder, '41, Cape Girardeau, Mo., was honored in July at a retirement ceremony for 35 years of service with the U.S. Army and Naval Reserve Center. Dr. Kinder has served as a medical officer at the Cape Girardeau center since 1952 when he was appointed lieutenant commander. He was promoted to captain in 1964.
Helen Reller Gottschalk, '42, is an associate professor of dermatology, University of California at Irvine.
Edward A. Mason, '44, has been awarded the 1976 American Film Festival blue ribbon for the best film on the performing arts. Dr. Mason is currently on the faculty of Harvard Medical School and is Director of the Mental Health Training Film Program there.
Dr. Mason's film, "Gee, Officer Krupke," which documents the Harvard Dramatc Club's production of "West Side Story," was selected by the Festival jury from a field of 13 finalists, representing the most outstanding performing arts films released in the past year.
After graduating from Medical School, Dr. Mason specialized in psychiatry and for the past 15 years has combined his skills in psychiatry and filmmaking to produce over 25 films for professional mental health education.
James C. Sisk, '46, St. Louis, has been re-elected chairman of the Board of Missouri Medical Service (St. Louis Blue Shield) for the eighth consecutive term. Dr. Sisk also was appointed to the board of directors of Medical Indemnity of America Incorporated, a nationwide insurance company associated with a national association of Blue Shield plans.
Kenneth R. Dirks, '47, Washington, D.C., has been promoted to Major General and has taken command of Fitzsimmons Army Medical Center.
James T. Brown, '48, Springfield, Mo., was the featured speaker at the spring banquet of the Ozark Empire chapter of the American Institute of Banking in Springfield. Dr. Brown is Speaker of the MSMA House of Delegates.

'60s
Floyd E. Bloom, '60, San Diego, is professor and director of the Arthur Vinins Davis Center for Behavioral Neurobiology, Salk Institute, La Jolla, Calif. In November he will take office as president of the Society for Neurosciences.
Gabriel S. Zatlin, '60, Yaounde, Cameroun, West Africa, is field director of the African Health Training Institutions Project sponsored by the University of North Carolina and based in Yaounde. A continent-wide project, Dr. Zatlin is involved in introducing new methodology in maternal-child health, nutrition and family planning at African medical, nursing and midwifery schools. Dr. Zat-
lin formerly was a private practice pediatrician and later a pediatric consultant to the government of Indonesia for two years.

John W. Conklin, '63, Alton, Ill., is practicing diagnostic radiology and is director of the divisions of nuclear medicine and ultrasound at Alton Memorial Hospital.

Robert H. Waldman, '63, is acting chairman of the Department of Medicine, University of Florida College of Medicine, where he also is chief of the Division of Infectious and Immunologic Diseases.

Arnold E. Katz, '67, Wellesley, Mass., has been appointed assistant surgeon on the full-time staff of the New England Medical Center Hospital Department of Otolaryngology and assistant professor of otolaryngology on the faculty of Tufts University School of Medicine.

Gary S. Rachelefsky, '67, is director of Pediatric Allergy Clinic, UCLA School of Medicine.

Hunter Heath III, '68, Rochester, Minn., has been appointed to the staff of the Mayo Clinic, Rochester, Minn., as a consultant in endocrinology and internal medicine. He also is assistant professor at Mayo Medical School.

William Berman, Jr., '69, a pediatric cardiologist, has been appointed assistant professor of pediatrics in the Pennsylvania State University College of Medicine at The Milton S. Hershey Medical Center.

Charles L. Rich, '69, Pittsburgh, Pa., is assistant professor at the University of Pittsburgh (Western Psychiatric Institute and Clinic). Dr. Rich also is membership chairman of the newly organized American Academy of Clinical Psychiatrists.

'70s

Paul C. Simpson, Jr., '70, Boston, Mass., is in his second year of cardiology fellowship at Massachusetts General Hospital.

Thomas C. Namey, '73, Birmingham, Ala., currently is a senior post-doctoral fellow and instructor, Division of Clinical Immunology and Rheumatology at the University of Alabama Medical Center. Dr. Namey holds a dual appointment as fellow, Division of Nuclear Medicine. He recently was elected to the Society of Nuclear Medicine and published an article in the May, 1976 issue of Arthritis and Rheumatism.

In Memoriam

Alfred J. Aselmeyer, '23 ... Nov. 2, 1975
Lavon Bramwell, M.D. .... Date Unknown
Richard M. Brown, M.D. ... Feb. 12, 1976
George F. Burpee, '29 ... June 19, 1976
Guy Drennan Callaway, '17 June 5, 1976
Adolph H. Conrad, Jr., '38 July 23, 1976
Elizabeth Kirkbride Gay, '51 July 18, 1976
Phillip Hansen, '38 ... April, 1976
Alfred H. Hathcock, '30 ... June 28, 1976
Aphrodite Hofsommer, '23 July 25, 1976
Carl C. Irick, '24 ... May 20, 1976
Maude L. Lindsey, '24 ... June 12, 1976
Maxwell H. Mund, M.D. ... June 20, 1976
Andrew H. Ryan, '10 ... Mar. 18, 1976
Edward A. Smolik, M.D. ... July 10, 1976
Wesley D. Thompson, M.D. ... Date Unknown
Paul K. Webb, '23 ... June 25, 1976
Charles O. White, '39 ... May 7, 1976

Health Care Administration

Robert Marshall, HC '76, is administrative assistant at West Suburban Hospital, Oak Park, Ill.

John S. Prout, HC '74, has been appointed assistant administrator at Bethesda General Hospital, St. Louis.

William C. Schoenhard, Jr., '75, has co-authored an article "Automated Utilization Review Is Timely, Accurate, Efficient," which was published in the July, 1976 issue of "Hospital Progress." Currently he is vice president and director of general services at Deaconess Hospital, St. Louis.

Charles F. Stumpf, '54, is Administrator of Worcester Hahnemann Hospital, Worcester, Mass.

Former House Staff and Former Faculty

Eliot L. Berson, M.D., Boston, is associate professor of ophthalmology at Harvard Medical School.

Mario G. Fiorilli, M.D., Chapel Hill, N.C., a fellow in infectious diseases at the University of North Carolina, received the M.P.H. degree from the U.N.C. School of Public Health.

Thomas R. Hamilton, M.D., Duluth, Minn., is professor and head of the Department of Medicine, Microbiology and Immunology at the new University of Minnesota-Duluth School of Medicine which has a fully-accredited two-year school of basic science.

Winsor V. Morrison, M.D., Memphis, has retired from the U.S. Public Health Service and is associate professor, Department of Otolaryngology, University of Tennessee.

James J. Stark, M.D., Brookline, Mass., is completing his last year as a fellow in medical oncology at Sidney Farber Cancer Institute.

Alumni Receptions

November 15—The Radiological Society of North America Meeting, Palmer House—Chicago
February 6—American Academy of Orthopaedic Surgeons Meeting—Las Vegas
February 19—1977 Clinical Conference—Maui, Hawaii

40
Symposium Honors Carl F. Cori

Carl F. Cori, M.D., distinguished service professor emeritus of biological chemistry, who won the Nobel Prize in 1947 in medicine and physiology was honored on his approaching eightieth birthday at a two-day symposium on his research specialty, glycogens.

He and his late wife, Gerty T. Cori, M.D., shared the Nobel award for their discoveries explaining the process whereby glycogen is converted into glucose.

The discoveries made a wide impact on later advances in biochemistry and genetics.

Participating in the symposium were Dr. Cori's former co-workers and students, including three fellow Nobel laureates: Dr. Arthur Kornberg, director of the Biochemistry Department at Stanford University Medical School; Dr. Severo Ochoa, of the Roche Institute of Molecular Biology, Nutley, N.J., and Dr. Luis Leloir, of the Institute of Biochemical Investigation, Buenos Aires, Argentina.

Dr. Kornberg and Dr. Ochoa shared the 1959 Nobel Prize in medicine for their discovery of the biological synthesis of deoxyribonucleic acid (DNA) and ribonucleic acid (RNA). Dr. Leloir won the 1970 prize in chemistry for his discovery of sugar-nucleotides.

Dr. Cori, who was born in Prague, Czechoslovakia, taught at the School of Medicine until his retirement in 1966 as chairman of the Department of Biochemistry. He now lives in Cambridge, Mass., where he has a research appointment in genetics with the Massachusetts General Hospital.