1975

Outlook Magazine, Fall 1975

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The Dean Comments

In the last issue of Outlook, Dr. George Rader, '51, President of the Medical Center Alumni Association, described the School of Medicine’s new Continuing Medical Education Program in his Presidential Letter to fellow alumni. This program represents a major effort of the School which was conceived and launched by the Alumni Association. I point this out because most alumni probably feel that they have no opportunity to influence the direction of medical education even within their own school.

It came about in this way. Shortly after Dr. William Danforth became Vice Chancellor for Medical Affairs (1965) he established the Medical Teaching Fund into which money contributed by alumni may be placed. Somewhat later he asked the President of the Medical Center Alumni Association to appoint a committee of alumni to advise the Vice Chancellor and the Dean as to how the money in this fund might be spent. A committee of three was appointed. Its members were Dr. Robert Anschuetz, ’40; Dr. Stanley Harrison, ’30; and Dr. Virgil Loeb, Jr., ’44.

The Committee met annually during alumni week. Various uses for the fund were decided upon over the years and have been described in previous issues of Outlook. These three gentlemen, however, kept returning to one particular theme, i.e. the interest of the alumni in continuing medical education. I should also mention that in addition to Dr. Rader, other recent Presidents of the Medical Center Alumni Association have also encouraged us to move in this direction, particularly Drs. Jack Barrow, ’46; James Stokes ’48; James Wood ’49; and Donald Finger ’50. The message was finally received. Two years ago Dr. Elmer Brown, Jr., ’50, was appointed Associate Dean for Continuing Medical Education. Things have been happening ever since. Dr. Brown is an internist and a distinguished hematologist. Inside the back cover of the Summer 1975 issue of Outlook is the Calendar of Continuing Medical Education for 1975-76. It is indeed impressive. (There is an update in this issue.)

The program is now one of the important functions of the School of Medicine, and I should like to take this opportunity to thank the Medical Center Alumni Association for sponsoring it.

M. Kenton King, M.D.
Dean
Cover

*The new EMI body scanner, a revolutionary advance in radiology. See story page 2.*

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The Mallinckrodt Institute of Radiology at the School of Medicine has received a new computerized X-ray body scanning system destined to revolutionize the field of radiology worldwide.

Mallinckrodt was one of three institutions to receive one of the first body scanners produced by British developers, EMI Limited. The other two are at Mayo Clinic, Rochester, Minn., and Northwick Park Hospital, London, England.

Radiologists are calling computerized axial tomography the biggest advance in the field since the X-ray, and they believe it will revolutionize medical diagnosis.

It is expected to cut costs by reducing hospital stays and eliminating the need for much exploratory surgery. Moreover, the process is noninvasive, causing no discomfort to the patient and exposing him to no more radiation than conventional X-rays.

The $550,000 body scanner was received a few months ago and was demonstrated by Ronald G. Evens, M.D., Elizabeth E. Mallinckrodt Professor and Head of the Department of Radiology at the School of Medicine and Director of the Institute for the first time at a press conference Oct. 22.

The procedure is simple. The patient reclines on an adjustable couch which extends through a circular opening in the EMI body scanner. In about 20 seconds, the machine rotates around the chest and produces a highly-defined, computer-generated picture of a slice through the heart and lung area.

"The couch can be moved to scan and yield a three-dimensional representation of any portion of the body," Dr. Evens said. "It is as though a physician can hinge open a patient's body at any point and study bones, organs, and tissue formations at that location. The resulting pictures show details of the human body, previously impossible to detect."

And although conventional X-rays are still valuable in showing bones and objects such as gallstones inside the body, they provide only shadowy...
pictures at best of soft tissues, usually superimposing bones and organs in a confusing mass.

But the new body scanner which is said to be 10 times more sensitive to differences in densities, can differentiate between diseased and healthy tissue (making early detection of cancer possible), and can detect tumors, abnormal cavities, blood clots and enlarged organs.

The body scanner is a consequence of the EMI brain scanner, which opened the field of computerized tomography three years ago. The Mallinckrodt Institute was one of the first medical institutions in the world to receive an EMI-Scanner for the brain and now has two machines performing an average of 120 cranial scans per week, Dr. Evens said.

There are now nearly 300 EMI brain scanners, mostly in U.S. and Canadian institutions, being used to diagnose blood clots, strokes, brain tumors, cysts, skull injuries and other brain diseases. These diagnoses can be made in minutes and without the risk of injecting chemical dyes or air.

The difficulty of transferring this method of scanning to the whole body was that it requires about four minutes—too long for a patient to hold his breath to prevent a blurred picture the movement would cause.

But an EMI computer engineer, Godfrey Hounsfield, discovered how to get it down to 20 seconds.

In a conventional X-ray a beam of X-rays is absorbed by the dense objects it encounters and an image of what is and is not absorbed is recorded on a film.

The body scanner, however, beams a fan of X-rays through the patient and rotates 10 degrees and beams again until 180 degrees has been covered. This detects tens of thousands of different absorption rates. This information is fed into a computer which has been programmed "to know" the absorption capacities of different tissues. From this the computer builds a picture of the organs and other matter and the results are presented as pictures on a television monitor screen. Each picture can also be photographed or stored on magnetic tape for later review.

Dr. Evens said the Institute's first body scanner will be used in a carefully-planned investigative program covering a wide variety of diagnostic studies ranging over much of the body, with emphasis on the chest and abdomen.

The cost for a scan, when it does become available for patients, will probably be around $225—the same as
Scan of liver, spleen and pancreas (normal).

Scan of normal kidneys.

Low level abdomen: aorta, vena cava, bowel loops (normal).

Liver with metastatic disease and carcinoma of the pancreas. (Post IV contrast agent)
Another project at Mallinckrodt is a device called the Positron Emission Transaxial Tomograph (PETT), shown above and on next page.
for a brain scan.

Collaborating in the program will be Michael M. Ter-Pogossian, Ph.D., professor of radiology, and John V. Forrest, M.D., Stuart S. Sagel, M.D., and Robert J. Stanley, M.D., associate professors of radiology. Technical representatives of EMI also will work closely with the Mallinckrodt Institute of Radiology staff during the clinical testing and evaluation program so any knowledge obtained about the system or its operation can be incorporated in future machines.

A team also has been working on their own device at the Institute called the Positron Emission Transaxial Tomograph (PETT).

While the body scanner provides information about the structure of an organ, the PETT, in conjunction with the proper radiopharmaceuticals, provides data about the function of the organ.

The PETT machine was designed, built and tested by a WU team which was headed by John Hood, director of operations at the main campus cyclotron. Others who participated include Carol Higgins, Edward J. Hoffman, Ph.D., Nizar A. Mullani and Michel E. Phelps, Ph.D.

The main contribution of nuclear chemists Hoffman and Phelps was in the physical aspects of the design of PETT; Mullani provided the electronic circuitry and the computer hardware; Higgins, the software (or computer programs) for the system.

The Biomedical Computer Laboratory was responsible for developing the mathematical procedures that are implemented in PETT to obtain an image. Jerome Cox, Sc.D., Sung Cheng Huang, D.Sc., and Donald L. Snyder, Ph.D., worked closely with those in radiation sciences to accomplish this.

Information obtained from PETT also is used to diagnose disease and to evaluate the effectiveness of treatment.

The machine has been in operation several months now and a carefully selected group of patients has received certain tests. The staff is studying the distribution of differently isotopically labeled compounds, and relating the distribution to several pathologies.

The computer on this machine interacts with the PETT during the measurement instead of merely acting as a storage bank. This enables the scientists to store more than 2,000 individual measurements and reduce them to a picture which represents the distribution of the isotope in that cross section of the body.

Outwardly, this procedure is a simple and rapid one. A person receives an intravenous injection of a radiopharmaceutical or inhales radioactive gas. The patient rests inside the cavity of the machine.

All of the isotopes used with PETT decay by what is called positron emission. The positron is unique in this emission from the nucleus because it combines with an electron and produces two gamma-rays which are always emitted 180° in respect to each other.

When two of these gamma-rays strike two detectors in PETT simultaneously, the position of the isotope must be on the line between the detectors. Then the detection system of PETT views the cross-section from many angles, and uses all of the data to reconstruct the image of the isotope distribution. PETT does this work with 48 detectors, making the measurements as rapid as possible.

In moments the data is collected and sorted out into activity profiles for each angle. PETT then corrects the detection efficiency, isotope decay and absorption of the gamma-rays in the body. The results are quickly displayed on a television screen. The production of one image can take from 4-20 minutes, during which time the patient is lying on a bed-like structure attached to the machine.

The staff of the Institute of Radiology are excited about both the PETT machine and the new EMI whole body scanner.

“We are truly impressed by the initial information from the EMI whole body scanner. We believe that the data collected at the Institute will be important to the entire field of medicine,” Dr. Evens said.
Freshman Facts Indicate Growth

Five years ago an individual wishing to enter the WUMS freshman class had one chance in 18 of being accepted.

This year a student's odds were only one in 50.

Although the available positions in the class have increased from 100 to 120 in the past five years, the number of applicants has multiplied threefold.

In 1970 there were about 2,000 applications received by WUMS. This year more than 6,000 competed for a place in the class.

Another increase has been in women students; 26 this year as compared to 14 in 1970. Last year a record number of 35 women were among the freshmen.

While married students were on the increase from 11 in 1970 to 30 in 1974, there are only 12 this year. The median freshman age is 21.

Five students are children of WUMS Alumni: five have parents who are WUMS faculty members and 19 have parents who are physicians or dentists.

There are 12 minority students in the 128 member class which has representatives from more than half of the states, with 18 Missourians.

Two students are from Hong Kong, one is from Taiwan and one is from Ghana.

To help the newcomers feel at home, the Medical Center Alumni Association annually sponsors a welcoming party. This year for the second time it was aboard the M/S Huck Finn. While enjoying the Mississippi river cruise, the freshmen had the opportunity to chat with alumni and faculty, and at the same time get better acquainted with one another.

(See pictures next page.)
Students and alumni (and their guests) board the M/S Huck Finn for an evening of
eating, drinking, dancing and getting acquainted.

**UNDERGRADUATE SCHOOLS REPRESENTED BY CLASS OF '79**

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In the Department of Psychiatry . . .

Scientists Pursue Basic Laboratory Research

by Barbara Cherrick

“What’s a person like you doing in a place like this?” is a question often asked of those in basic laboratory research in the Department of Psychiatry at WUMS.

The following ten scientists are members of this group. Their skills and knowledge span the chasm from basic neurochemistry to psychiatry to psychotherapy. Each has a special talent, and not one works isolated from the others. There is overlapping of ideas, projects, techniques, equipment and understanding.

During Wednesday departmental meetings for the entire group, or Friday noon research seminars, there is time allotted to discuss each person’s work. In these open forums anyone can participate with questions, opinions and extra data. Many do. There is an atmosphere available for candor, and most take advantage of it.

The addition to the faculty of those scientists concerned with biochemistry in psychiatry originally took place under the direction of Lili Robins, M.D. Dr. Robins came to the Medical School in 1949, and his dedication to the spirit of basic research combined with clinical studies in this field have been called the main attractions to Renard Hospital. Once the scientist begins working here, the academic freedom to pursue one’s work, plus unlimited possibilities for sharing new ideas are two reasons frequently mentioned for remaining on the faculty.

Under the leadership of Samuel B. Guze, M.D.,* Spencer T. Olin Professor and Head of the Department, these philosophies have been continued.

Following is a look at the ten basic laboratory researchers in the Department of Psychiatry: their research specialties and their contributions to psychiatry and the Department.

* Vice Chancellor for Medical Affairs.
Dr. Eli Robins M.D.
Wallace Renard Professor
of Psychiatry
Rice University, A.B. (1940)
Harvard University, M.D. (1943)

Dr. Robins has often stood alone in the field of psychiatry, approaching illness here as in any other specialty. He has looked for patterns among the many complications of the mentally ill, and their biochemical implications.

This broadened view of the manifestations of mental disease has brought about more precision in the diagnosis of psychiatric illness.

In 1963, Dr. Robins was appointed head of the department, and served in that position until last spring when he decided to devote more time to research and teaching. He will now direct his energies to the investigations done in his laboratory by Sylvia Moses, Evelyn Cochran, Juanita Carl, Larry Lao and Bonnie Walburn. Clinically, the work is done by a number of associates.

The scientists have been studying the enzymes of the nervous system, including lysosomal and steroid enzymes for nearly eight years. Approximately 100 suicide brains of depressed persons and alcoholics were obtained from the morgues of St. Louis city and county. In the laboratory, they are developing techniques to measure enzymes and substrates in the spinal fluid. Through this method, the researchers plan to provide basic information about neurochemistry of the brain.

In recent collaborative papers in this area, Dr. Robins has been interested in various aspects of biochemistry of the brain: the separation, purification and classification of certain compounds; chemical theories of psychiatric disorder; and the regional and subcellular distribution of certain sulfatases in brain.

From the time Dr. Robins first came to the Medical School as a U.S. Public Health Fellow in pharmacology and neuropsychiatry to work with Oliver H. Lowry, M.D., Ph.D., Dr. Robins has pursued a role of dynamic leadership and clarsighted approach to the biochemical aspects of psychiatry and to classification of psychiatric illness.

Those in the laboratory research group consistently maintain that the reasons why they were attracted to and have remained in the department are based on Dr. Robins' outstanding contributions to the field of neurochemistry as well as the academic freedom that is available to them in the department.

In 1974 the Society of Biological Psychiatry awarded Dr. Robins its Gold Medal for his pioneering contributions in the field. His list of credits in the field of psychiatry could stand alone as a story about him.

Dr. Robins is a vigorous investigator, and he continues to approach his own work and others' in the field in the same manner: with an open mind actively searching for some answers.

William R. Sherman, Ph.D.
professor of biochemistry in psychiatry
and assistant professor of biochemistry
Columbia University, A.B. (1951)
University of Illinois, Ph.D. (1955)

Dr. Sherman obtained his Ph.D. in organic chemistry. However, he describes his current research as some-

where between that field and biochemistry.

His work has two centers: one in the metabolism of inositol—a family of carbohydrates one member of which was once thought to be a vitamin; the other in mass spectrometry—a technique for chemical structure elucidation and for highly sensitive quantitative measurements.

"The inositols are a fascinating group of compounds," Dr. Sherman said. "Two of them, myo- and scyllo-inositol, appear to be present in sizable concentrations in most tissues of all plants and animals." While some of the reasons for this universal distribution are becoming known, Dr. Sherman explained that there are still clear gaps in our understanding.

"For the last few years Paul P. Hipps, Ph.D. and I have been trying to learn about the way in which the inositols are interconverted in animals. We began our work using cockroaches because of reports that insects had active enzyme systems for carrying out these transformations. Now we are working with mammalian brain tissue, and have become aware of a striking dissimilarity between the metabolism of these substances in lower forms (plants and insects) and in mammals. We hope, by continuing these studies, to gain a better knowledge of the roles which the inositols play in the nervous system and in other tissues."
Two mass spectrometers, each with a computer and output devices, are part of the growing Mass Spectrometry Facility of Washington University. Although Dr. Sherman is director of this facility he points out that "it is only through the combined efforts of many individuals that this facility exists as it does today. Dr. William Holmes is responsible for our computer expertise and capability, without which there could be no facility as we know it. If it weren't for William Henry Holland there would be no facility, for we simply couldn't keep it all operational. Many others have contributed to this operation, from friends to excellent users.

"We are somewhat unique in that most of our users actually run the equipment themselves," Dr. Sherman said, "and thus become sophisticated contributors to the facility. I believe that the benefits of this approach are to be found in the excellence of our applications of mass spectrometry to medical problems. We have recently been recognized for this by being made a Resource for Biomedical Mass Spectrometry by the NIH.

"Some of the uses to which these instruments are being put include the measurement of non-radioactive isotopes which can be employed as tracers to study normal as well as disordered human metabolism. Another active utilization is in the study of metabolic disorders resulting from genetic defects. Finally, mass spectrometry complements radioimmunoassay as a method for the measurement of exquisitely small amounts of substances in tissues, for example Dr. Biggs' use to measure antidepressants, which are present in blood plasma of treated patients in minute amounts. In my laboratory we are using the instruments to measure inositol in very small pieces of brain tissue—only one or a few nerve cells in size, a few billionths of a gram in weight.

"There is no other instrument that can give such a wealth of information about the structure of a molecule when only very small samples are available. And they do not even need to be pure when we run them. The equipment does its own purification by gas chromatography. It is one of the truly powerful methods of chemistry today. It gives me great satisfaction to see it being applied to medical research."

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Paul M. Packman, M.D.
assistant professor of psychiatry
Washington University, A.B. (1959), M.D. (1963)

Dr. Packman has been measuring enzymes in the hypothalamus, and is particularly interested in the metabolic relationship of that part of the brain with the pituitary gland.

His research includes basic biochemical-neuroendocrine studies as well as clinical investigation. In a collaborative study with Jack L. Croughan, M.D., assistant professor of psychiatry, Dr. Packman is evaluating individuals for transsexual surgery.

In this project, the detailed developmental, psychosexual and hormonal characteristics of these patients are being studied. A group of specialists has been assembled to help these individuals with their gender identify problems.

Those involved in this project at the Medical School include Dr. Robbins, Robert C. Wray, Jr., M.D., endocrinologist Robert C. Packman, M.D., and James G. Bucy, M.D. The group will also include a social worker and a lawyer.

This work is related to the neuroendocrine laboratory studies in rats in which Dr. Packman is investigating certain functions of the hypothalamus.

"We are trying to correlate what is happening metabolically with the physiological and behavioral changes which occur during the rat estrous cycle and during androgen sterilization. We have measured enzymes in the specific hypothalamic nuclei in order to ascertain those areas where metabolic changes may occur," he explained.

With C. Robert Cloninger, M.D. and Dr. Cicero, Dr. Packman has examined some of the metabolic aspects of the hypothalamus in animals treated with morphine. Of the three enzymes examined, G6PDH was significantly inhibited in the medial ventral medial nucleus of the hypothalamus.

"Our data indicate that chronic morphine administration does not produce a generalized change in the activity of enzymes representative of three major metabolic pathways in either brain or liver. This result emphasizes the possibility that the biochemical events which result in morphine tolerance and dependence may well be both regionally and metabolically selective."

Because of this kind of work Dr. Packman has been described as a neuroendocrinologist in psychiatry.

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John W. Olney, M.D.
associate professor of psychiatry
Iowa University, B.A. (1956), M.D. (1963)

Excitotoxic amino acids is the term Dr. Olney has coined to refer to glutamic acid, a normal amino acid that is toxic when it is concentrated in the brain. When these amino acids are concentrated in the brain, they can cause damage to neurons.

1 Malic dehydrogenase, lactic dehydrogenase and glucose-6-phosphate dehydrogenase.
Dr. Olney and his research associates discovered the brain damaging potential of these compounds several years ago, and have subsequently pursued this as their major area of research interest.

Dr. Olney came to WUMS in 1964 to begin a psychiatry residency. It was during this period, which included training in electron microscopy, that he observed that either oral or subcutaneous administration of monosodium glutamate (MSG) to infant animals leads to acute destruction of hypophalamic neurons. This finding was rather controversial in that MSG has been used for years by the food industry as an additive in processed foods, including those ingested by immature humans.

Although Dr. Olney's research has never been politically motivated, his findings have political implications which have drawn him into controversy and caused him to be called frequently to Washington, D.C., to testify at Senate Hearings and Food Safety Conferences. At such meetings he carefully points out that MSG is currently being used in foods ingested by immature humans at doses which provide only a five to 10-fold safety margin for the protection of the developing brain. Dr. Olney advocates observing a 100-fold safety margin for MSG, especially because children and infants derive no health or nutritional benefits from having MSG added to their foods. He notes that, despite repeated confirmation of his toxicological findings in other laboratories, the Food and Drug Administration has consistently avoided placing any regulatory restriction against the addition of MSG to food for infants and children (even school lunches often include added MSG). Dr. Olney explains FDA's failure to take appropriate regulatory action largely in terms of the influence which food and MSG industries have over this agency. "Five years ago I would have naively rejected this interpretation," Dr. Olney said, "but today I know better."

More recently, Dr. Olney and his associates have been studying the toxicity of Aspartame, a new synthetic sweetening agent comprised of aspartate and phenylalanine. Although this product was recently approved by FDA for use in various foods including those ingested by children, Dr. Olney has shown that it causes the same kind of brain damage that MSG causes. This is because it releases aspartate into the blood, and aspartate is one of the excitotoxic analogues of glutamate.

Dr. Olney is concerned that Aspartame will have a combined toxic action with glutamate when the two additives are ingested simultaneously by young children. The phenylalanine moiety of Aspartame is also objectionable, according to Dr. Olney, because it poses problems in the management of pregnancies of females who are homozygous for PKU. Unless phenylalanine intake of such individuals during pregnancy is kept to a very low level, mental retardation of the fetus is almost an assured outcome.

Dr. Olney has not convinced the FDA to rescind its approval of Aspartame, but he has persuaded the agency to hold a Public Board of Inquiry into the safety of the additive.

Dr. Olney hopes that studying the effects of excitotoxic amino acids and related compounds on the developing nervous system ultimately will shed light upon the pathogenesis of neuropsychiatric disorders encountered in later life.

Blake W. Moore, Ph.D.
professor of biochemistry in psychiatry
and assistant professor of biological chemistry
University of Akron, B.S. (1948)
Northwestern University, Ph.D. (1952)

Dr. Moore is known for his research in brain specific proteins. While working at Washington University's School of Dentistry he developed an interest in neurochemistry through talks with Dr. Robins. Dr. Moore became a member of the Department of Psychiatry 15 years ago, although he is quick to explain that he is not a psychiatrist.

Dr. Moore has received grants for his work from the National Institute of Neurological and Communicative Disorders and Stroke as well as the Multiple Sclerosis Society. He explained, "I became interested in nervous system specific proteins and their functions because a protein specific to an organ probably is connected with a function specific to that organ. In the last decade the search for such proteins has been made feasible through the development of a number of techniques.

"One of those techniques is protein fractionation based on chromatographic and gel electrophoretic
methods. Another is assay based on immunological methods. These have greatly improved our work," Dr. Moore explained, "and now we are able to use more sensitive and specific methods for measuring individual proteins as well as better methods for their isolation from the brain.

"Most outsiders do not see the correlation between studying the brains of all kinds of animals—rabbits, rats, fish, mollusca, octopus, rhinoceros, etc., but we have found that there is a high degree of similarity in the nervous system specific proteins among all vertebrates and some invertebrates. At the present time we do not see the whole picture, but this information may provide more understanding of the biochemical function of proteins in man's brain."

Although he has isolated six brain-specific proteins, two of them S-100 and 14-3-2, have been studied most intensively. In general, according to Dr. Moore, the S-100 protein is present in one cell type (glia) in the brain, while the 14-3-2 is confined to the other major cell type (neurons).

"Our Department of Psychiatry has a long history of recognition of the value of animal studies in understanding human brain function and dysfunction," Dr. Moore said.

Boyd K. Hartman, M.D.
associate professor of psychiatry
University of Kansas. A.B. (1962),
M.D. (1966)

The research interest of clinical psychiatrist Dr. Hartman is the anatomical organization and function of biochemically defined neuron systems.

"We cannot even have good ideas concerning the basis of psychiatric problems until we know a good deal more about how the brain works with regard to the basic biochemical mechanisms that underlie thinking, emotion, learning and memory," he said. "Not that I am working on any of these problems in particular, but at this stage, any investigation that adds to the knowledge of neurochemistry is part of psychiatry."

Dr. Hartman's approach is to begin with a defined protein marker, and to study its anatomical distribution using immunohistochemistry. In this way, neuron systems containing that marker can be established. "The anatomy is the key piece of information that links biochemistry and physiology. Once one understands what neurons go where, it is much easier to determine the appropriate physiological functions to study."

Dr. Hartman has spent the past six years localizing dopamine-β-hydroxylase, the enzyme responsible for the synthesis of norepinephrine (a transmitter implicated in many psychiatric problems).

One of his major findings has been that nerve terminals derived from brain norepinephrine cells appear anatomically to innervate small cerebral blood vessels. The logical sequence was then to study the effect of the central norepinephrine system on vascular dynamics, according to Dr. Hartman.

He and Marcus E. Raichle, M.D., associate professor of radiology and of neurology and neurological surgery, have collaborated in establishing the presence of neuroregulatory mechanisms that affect cerebral blood flow and capillary permeability.

In other work Dr. Hartman and Blake W. Moore, Ph.D., are mapping neuron systems that contain the various proteins Dr. Moore has isolated. They now have markers for essentially all cellular components in the brain, including neurons, glia and myelin. "It may become possible to diagnose any degenerative process occurring in the brain by immunohistoassay of the serum or spinal fluid for the presence of a profile of these antigens, much as is done now using SGOT for the diagnosis of myocardial infarction," Dr. Hartman said.

He continues to be unperturbed by what may seem to be a fine thread linking his research to clinical psychiatry. "It all comes down to an article of faith," he said, "namely that the brain is in some way related to behavior—but that relationship will remain obscure until a much greater base of information has been established.

"Meanwhile, the development of this base requires a great deal of effort and experimentation, trying to answer questions that are presently within our grasp."

Shirley Y. Hill, Ph.D.
research assistant professor in neuropsychology
Grinnell College, A.B. (1963)
Washington University, Ph.D. (1971)

Dr. Hill is investigating animal models of alcohol and drug addiction,
attempting to produce in rats the human analogues of tolerance and dependence.

Through use of inbred strains of rats and modification of their rearing patterns, she plans to document the role of genetic and environmental factors in the self-administration of drugs and alcohol. Also, she will analyze the animal's tolerance to and dependence on a given drug using sleep EEG parameters (e.g. REM and non-REM).

In another project relating to her interests in alcoholism, she is collaborating with Curt Thies, Ph.D., associate professor of chemical engineering, at the Biological Transport Laboratory (main campus). Their goal is to develop a long-acting form of a drug currently used in the treatment of alcoholism, Antabuse (disulfiram), by microencapsulating the drug for injection. This drug produces aversive symptoms such as nausea, tachycardia and hypotension in patients who drink even small amounts of alcohol. A great deal of effort will be devoted to testing the microencapsulated form of the drug. In order to test the effectiveness of this form, it will be necessary to determine a safe dose that evokes the disulfiram-ethanol reaction in experimental animals by recording heart rate, blood pressure, respiration, and other things.

Dr. Hill is most known for her work on marihuana in which it was demonstrated that the old idea that marihuana is a depressant does not fit with new data.

"According to the first results of the findings, the drug increases sensitivity to intermittent light and to painful and non-painful stimulation," Dr. Hill said. Although preparations of Cannabis sativa have been used for centuries to relieve pain, there had not been any systematic investigation of this phenomenon prior to her study.

"In a laboratory situation, we found that marihuana smoking did not act as an analgesic when painful electrical stimulation was applied to the fingers of volunteers," she said. "In fact, it appeared to increase the sensitivity to painful stimulation. We have concluded that one of the prominent actions of marihuana may be a stimulating effect on the central nervous system.

Currently, Dr. Hill is not engaged in marihuana research, but is interested in biogenic amines and how they affect voluntary consumption of drugs in experimental animals.

Although Dr. Hill is interested primarily in animal research, she also is engaged in a study to determine if chronic drug and alcohol abuse leads to organic brain pathology as evidenced by the patient's functioning on neuropsychological tests. In collaboration with the Department of Radiology, EMI brain scans also will be obtained.

As an investigator, Dr. Hill has well-documented evidence to establish her place firmly with those working in neurobiological research.

Theodore J. Cicero, Ph.D.
associate professor of neuropharmacology in psychiatry Villanova University, B.S. (1964)
Ph.D. (1968)

Dr. Cicero is the director of the Washington University Drug Abuse Research Center established in 1972 by the National Institute of Mental Health. It was one of the first in the country.

The overall purpose of the Center is to study the effects of morphine and related narcotics on brain function, particularly with respect to changes in a number of functionally important neurochemical systems. "Our goal is to determine the neurochemical correlation of drug addiction and to understand how drugs with significant addictive ability affect the function of the brain." Dr. Cicero said.

In some of his recent work Dr. Cicero has been concerned with the effects of narcotics on the endocrine control of sexual function in the male rat. In early research, he found that chronic morphine or methadone administration produced a marked atrophy of the secondary sex organs, specifically the seminal vesicles and prostate gland of the rat. Subsequent work has indicated that the narcotics depress the blood levels of the male sex hormone, testosterone.

"In the latest studies we have been able to eliminate peripheral actions of the narcotics on the testes or secondary sex organs. It seems highly probable that the narcotics block the hypothalamic-pituitary factors involved in the regulation of testosterone levels and normal secondary sex organ function. The latest evidence has supported this conclusion because it was found that blood levels of the leuteinizing hormone are also depressed by chronic narcotic administration (morphine). (The leuteinizing hormone excreted by the pituitary gland is the hormone found responsible for the secretion of testosterone.)

"I would like to try to isolate the point at which morphine, heroin or methadone exert their effects along the hypothalamic-pituitary-gonadal axis. Now our best guess is that these drugs interfere with normal hypothalamic and/or pituitary function," Dr. Cicero said. In order to characterize the effect of morphine, the scientists have gotten down to basic physiology: they must first characterize
Various neurochemical systems, particularly those in the hypothalamus and pituitary gland, before they can assess the effects of morphine on this system.

In human studies, heroin and methadone users were also examined to determine the effects of these drugs on male sex hormone levels and the function of the secondary sex organs. "The human study was fascinating," Dr. Cicero explained. "All previous research in the area had been done on animals, and the human problem was unique." These studies have since confirmed Cicero's findings in the rat. They indicate that methadone markedly lowers blood levels of testosterone and substantially reduces the functional activity of the secondary sex organs. "This makes us more confident that our present research in the rat, which is directed toward understanding the mechanism underlying the effects of morphine on the endocrine control of sexual function will be of clinical relevance," he said.

Dr. Cicero also is examining a number of other neurochemical systems which could be involved in the acute effects of the narcotics as well as the development of tolerance and physical dependence.

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John Thomas Biggs, Jr., M.D.
assistant professor of psychiatry
Drury College, A.B. (1963)
University of Tennessee, M.S. (1965)
M.D. (1968)

Dr. Biggs is studying the relationship between tricyclic antidepressant plasma levels and depression. He wants to improve patient care by monitoring psychotropic drug levels. These drug levels are assayed by gas chromatography-mass fragmentography. In a particular method developed by William R. Sherman, Ph.D., and Dr. Biggs, the assay will accommodate six to 12 samples per hour, greatly increasing the number of samples that can be handled per day.

"This Medical Center is unique because it is the only one in the country to routinely assay tricyclic levels in patients undergoing treatment for depression," Dr. Biggs explained.

"I really came here to what I thought was the best possible place to use all of the background work I'd done—I've never been disappointed."

Dr. Biggs is a self-defined pharmacist-psychiatrist who clinically evaluates patients who have attempted suicide by drug overdose. By studying the blood levels of the drugs ingested, his goal is eventually to improve both psychiatric and medical management of these patients.

Dr. Biggs also is studying the relationship between plasma tricyclic levels and therapeutic response in outpatients undergoing treatment for depression. The scientists are trying to find an optimal plasma drug level, and their study will be greatly expanded through a collaborative project headed by Dr. Robins. In this research, several hundred samples from four other major medical centers will be sent to these laboratories for analysis of tricyclic blood levels.

Through this work, he hopes to provide important clinical information regarding the use of psychotropic drugs, patient prognoses and management. Dr. Biggs plans to document this information, and use it in what he terms a rational approach to psychiatry.

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James H. Allison, M.D.
assistant professor of psychiatry
Kenyon College, A.B. (1960)
University of Pittsburgh School of Medicine, M.D. (1965)

Dr. Allison, a clinical psychiatrist, is working on the effects of lithium on carbohydrate and lipid metabolism in the nervous system. During his postdoctoral training he found that lithium reduces levels of myo-inositol in the brain, and more recently has discovered that this effect of lithium is inhibited by atropine and scopolamine. "The next step," he said, "will be an evaluation of lithium's effects on the metabolism of the phosphoinositides. These compounds are phospholipids which contain myo-inositol and are thought to play an important role in membranes throughout the body. They also appear to be involved in the transmission and conduction of nerve impulses."

Lithium is effective in the treatment of manic-depressive illness, and Dr. Allison feels this research may possibly provide some clues to the mechanism of lithium's action in this disease.

"This work may not pay off for a long time," he said, "but there is sufficient evidence to allow one to believe that inositol and the phosphoinositides play a vital role in the functioning of the nervous system."
Operation New Life

By Lt. Douglas G. Nuelle, M.D. '73

As the last days of the South Vietnamese government approached, thousands of people left their homes and friends to flee from the advancing communist front.

On April 23, of this year, shortly before Saigon fell, the United States began evacuating these refugees to the tiny island of Guam in the western Pacific. Operation New Life had begun.

Guam, the largest island in the Marianas chain, some 1500 miles east of the Philippines, is a territory of the United States. It is 35 miles long and from four to 10 miles wide, with a population of some 40,000 natives and 50,000 U.S. Military personnel.

In a matter of a few days last April, Guam's population doubled. There was no preparation for it. We were notified of the sudden fall of Saigon one evening and by 3:15 a.m. the next morning the first plane arrived. The Seabees worked all through the night to make livable the old barracks complex called "Tin City." This ironically had housed the B-52 bomber crews that had attacked North Vietnam three years earlier.

An old naval hospital annex that had held injured Vietnam servicemen enroute to the states during the peak casualty period of 1968-69 was converted overnight to house the first few arrivals. As these were filling, the largest camp was being constructed at Orote Point, a jungle encased abandoned WWII Japanese airfield. In a few days time 500 acres of jungle were cleared and Orote Point was a "tent city" of 50,000 people . . . complete with plumbing, food lines, movie theaters, churches and two hospitals.

The medical community on Guam was faced with many problems at the outset of Operation New Life. First the two hospitals, the Navy Regional Medical Center-Guam (NRMC) and Guam Memorial Hospital, a civilian hospital, were insufficient to absorb a doubling of the population.

There were many questions. Would the evacuees be carrying contagious diseases? How could 5,000 to 10,000 people per day be medically screened? Would there be wounded? How could epidemics be avoided at the camps where sanitation was, at best, only adequate?

At 3:15 A.M. on April 23, the first plane arrived on Guam. By the end of the next day, 4,200 Vietnamese were on the island. At the airfields, NRMC set up screening teams to medically evaluate the people as they disembarked.

The first few thousand evacuees were well dressed,
upper middle class Vietnamese, with a few minor medical problems. But as the airlift continued, more of the poor, malnourished people began arriving.

The beds in the hospital began to fill with infants with diarrhea and adults with tuberculosis. Several “isolation wards” were hastily constructed to house families with index cases of rubella, rubeola and varicella.

A few war wounds were seen. One man had been shot in the foot by a stray bullet while waiting in the Saigon airport. He told no one of the wound until he arrived on Guam because he feared he would be rejected from the flight.

Medical support began pouring in from all over the world within the first 48 hours of Operation New Life. Military medical support teams from the Navy, Army and Air Force were put to use at the hospital, on screening teams, and at the camps. Three complete mobile hospitals were erected at the larger camps. These medical facilities were able to provide care for the 1,000 to 5,000 refugees arriving daily. Then as suddenly as they had begun, the flights ceased. Saigon had fallen. But, Operation New Life was not over.

The airport in Saigon was destroyed and thousands of people fled to the sea. U.S. cargo ships were waiting off-shore to evacuate these people.

The voyage from Vietnam to Guam takes about ten days. There were as many as 6,000 people to each vessel, and often they were shoulder to shoulder for the entire trip. Water supplies and food supplies were low, and sanitation facilities were grossly inadequate.

Exposure to the elements, malnutrition and dysentery were highly probable. Since malaria, dengue fever, cholera, typhoid fever, and infectious hepatitis are all endemic in Vietnam, spread of these diseases to unaffected evacuees and the local community would have to be prevented by adequate medical screening. Indeed, the possibility that an entire ship might be affected was of concern. Fortunately, the only shipwide epidemic that was encountered was conjunctivitis.

I became involved with the refugees at this point as a screening team physician. Our team of three doctors and 15 corpsmen met the first ship at the pier.

That was a sight I shall never forget. In the dim light of morning, the huge cargo ship arrived. A seething mass of humanity overflowed from every available space aboard. As the interpreter shouted “Welcome to America,” a great cheer came from the deck of the ship.

The medically urgent people were taken off the vessel first. These included wounded patients, febrile patients and women in labor. They were sent directly to the hospital. Then, the masses of people came. These were a stark contrast from the first wealthy arrivals. They were the peasants. They were hungry, dirty, tired, and carried with them their most prized possessions.

As I watched thousands of people pass by I was amazed by the array of personal possessions these people brought. Some of them carried the new stereo they had pilfered from the abandoned Saigon Pk, others were very poor and clung to empty food cans they had used to collect water. Some brought large Christian statues; a few brought their Hondas.

Our team screened about 1,000 people per hour. Each refugee was handed a yellow tag to carry. This was his identification and medical record. Family units were screened together by a physician, corpsman, and interpreter. The interpreter inquired about both acute and
chronic disease while the corpsman and physician examined each person.

Entire families with a childhood contagious disease were isolated from the others. Varicella and rubella were fairly frequent. Conjunctivitis, heat rashes, impetigo, and lice were the most frequent medical problems encountered at the screening table.

One evening I was working in a dispensary when a Vietnamese man brought in his 5-year-old son with a high fever. Trying to obtain a medical history became a sudden obstacle. All the interpreters were out to supper. The father, his son and I just looked at one another for what seemed to be an eternity. Then I remembered that Vietnam had been a French colony, so I mustered up all my rusty 10-year-old French and found the child had gone to a Catholic School in Vietnam and knew about as much French as I. We were able to help each other diagnose his illness. His father sat there bewildered by the whole thing.

The ships kept coming. There were three the first day, bringing a total of 15,000 people in 24 hours. This continued for about a week until some 100,000 people had passed through Guam.

Even after the great influx was over the medical problems continued. Caring for the 60,000 people awaiting immigration processing to the mainland was the task at hand. Due to the effort by public health officials, no epidemics were encountered. All of the contagious diseases were contacted prior to arriving on Guam. There were 51 cases of malaria, 10 cases of typhoid fever, and approximately 40 cases of dengue fever. There was one fatal case of hemorrhagic dengue fever. Parasitic infections included sporadic cases of hookworm, ascariasis and trichuriasis. These refugees either received primary care at the NRMC-Guam or were sent on to the states for further treatment.

Operation New Life is beginning to fade on Guam now. But, the experiences, both personal and medical, will never fade from my memory.
Col. William N. Jenkins, '20, Port Gibson, Miss., has been honored by friends in Claiborne County, Miss., for 50 years of faithful service.

Harvey S. Rusk, '21, Pueblo, Colo., has retired from practice. His specialty was eye, ear, nose and throat.

Thomas M. Boulware, Jr., '26, Birmingham, is clinical professor of obstetrics at the University of Alabama School of Medicine.

Gerald W. Cady, '52, has retired from active duty after 30 years in the U.S. Navy where he was chairman of the Orthopedic Dept., Navy Regional Medical Center, San Diego. He has joined the Smith-Hamna Medical Clinic and is president of the San Diego Chapter of the Western Orthopedic Association.

Donald B. Rinsley, M.D., '54, Topeka, Kan., continues as senior faculty member in general and child psychiatry, Menninger School of Psychiatry, and associate clinical professor of psychiatry, University of Kansas School of Medicine. He has accepted a new position as associate chief of psychiatry for education, Topeka Veterans Administration Hospital and was elected to the American Academy of Psychoanalysis. He recently co-authored, with James F. Masterson, "The Borderline Syndrome: The Role of the Mother in the Etiology and Psychotic Structure of the Borderline Personality," International Journal of Psycho-Analysis, Vol. 56, Part 2.

Bernard Goldstein, '56, is serving as acting chief of outpatient service at the Veterans' Administration Hospital, St. Louis.

Capt. John W. Hauzenblas, '56, is chief of the Department of Orthopedic Surgery at the U.S. Naval Hospital in Newport, R.I., and a member of the American Academy of Orthopedic Surgeons.

Robert E. Cutler, '58, Espanola, N.M., is president of the New Mexico Medical Society.

Alan E. Eberstein, '60, Dallas, will go on a study mission to Israel this month.

Phillip E. King, '61, Liberty, Mo., after 10 years in family practice, began a full-time emergency medicine practice with two other associates and is teaching emergency medicine at Kansas City General Hospital. He also is president-elect of the Missouri chapter of the American College of Emergency Physicians.

Ronald E. Rosenthal, '61, Nashville, associate professor of orthopedics, rehabilitation and anatomy at Vanderbilt University Medical School, was awarded a research grant from the Orthopedic Research and Education Foundation for studying "Articular Chondrocytes in Tissue Culture."

Scott E. Dietert, '62, has been named senior pathologist in the toxicology department of the Eli Lilly Company in Greenfield, Ind.

Laurence W. Muench, '62, has been named director of the Department of Anesthesia, St. Joseph Mercy Hospital, Sioux City, Iowa.

R. H. Waldman, '63, professor of medicine at the University of Florida, has co-authored a paper "Immunity to Infections on Secretory Surfaces," which was chosen as a winner at the first University Faculty Forum. Each paper chosen earned a $200 honorarium.


Larry A. Schafer, '66, has been named assistant internist and assistant professor of medicine, Department of Developmental Therapeutics, M. D. An-
Juhn E. Hobb.s, M.D. '27, clinical professor emeritus of obstetrics and gynecology, spoke about the progress he has seen during his 18-year association with Barnes Hospital before unveiling the Barnes history wall. The idea for the wall was conceived by Dr. Hobb.s, who felt a display to honor the hospital's founder, Robert E. Barnes, a 19th century St. Louis merchant, was long overdue. The display consists of two groups of photos showing the growth of the hospital complex from the first load of sand in 1912 to completion of the East Pavilion in 1972.

John Asher, '67, was named head of the Division of Infectious Disease at Morrisonia Hospital, Albert Einstein-Montefiore Hospital Medical Center, New York City, N.Y.

Grace L. Blair, '67, Palo Alto, Calif., has been board certified in thoracic surgery. She is now assistant chief of cardiac surgery at Palo Alto Veterans Administration Hospital and Clinic, and associate professor of cardiovascular surgery at Stanford.

Michael Treister, '67, is a member of the Public Relations Committee of the Chicago Medical Society and on the Board of Directors of the Chicago Foundation for Medical Care.

Robert Becker, '69, St. Louis, has gone into a group practice in obstetrics and gynecology.

Michael J. Kelley, '69, assistant professor of radiology, University of Florida College of Medicine, co-editor of Medical Clinics of North America, Jan. 1975, was the author of the article, "The Radiologic Evaluation of the Patient with Suspected Pulmonary Thromboembolic Disease," published in that issue.

Bruce D. Fisher, '70, is a clinical fellow in infectious diseases at Sloan-Kettering Memorial Hospital Cancer Center, New York City.

Steven A. Kotner, '70, is chief resident in obstetrics and gynecology at the University of California, San Diego.

Lyle D. Pahnke, Jr., '70, has completed a general surgery residency at New York University, Bellevue Hospital, and is starting a fellowship in oncologic surgery at Sloan-Kettering Memorial Hospital Cancer Center, New York City.

Robert J. Nelson, '72, San Antonio, has opened an office for the practice of pediatrics.

Capt. Lary A. Robinson, '72, has completed a tour of duty as chief, Aero-medical Services, Nakhon Phathom Royal Thai Air Force Base, Thailand and will now be assigned to Eglin AFB, Fla.

Reception
THE RADIOLOGICAL SOCIETY MEETING
December 1, 1975
6:30-8:00 p.m.
Palmer House-Chicago
Palmer "H"

Former House Staff
And Faculty

Amoz I. Chernoff, M.D., Knoxville, Tenn., director of the University of Tennessee Memorial Research Center and professor of medicine at that university's College of Medicine, has been named medical and scientific director of the Cystic Fibrosis Foundation.

Joyce S. Davis, M.D., College Station, Tex., has been named program director in pathology at the developing...
Gilbert Forbes, M.D., Rochester, N.Y., has been cited for his teaching excellence by the University of Rochester where he is acting co-chairman and professor of pediatrics. He also is chief editor of the American Journal of the Diseases of Children.

Robert S. Francis, M.D., Nashville, has assumed the position of chief of angiography in the Department of Radiology and Sharron M. Francis, M.D., has accepted an appointment as assistant professor of physiology, both at Vanderbilt University.

Kenneth D. Michael, M.D., is the program director of Continuing Medical Education in the Department of Psychiatry at St. Louis University School of Medicine.

Roger H. Michael, M.D., has been appointed acting chairman of the Division of Orthopedic Surgery at the University of Maryland Hospital in Baltimore.

Charles H. Rammelkamp, M.D., Cleveland, Ohio, has been awarded an honorary D.Sc. degree from Northwestern University.

David Rimland, M.D., Tucker, Ga., is doing a two-year fellowship at Emory University, Grady Memorial Hospital, Atlanta.

Eugene L. Speck, M.D., Ph.D., has completed a fellowship in infectious diseases at Strong Memorial Hospital, Rochester, N.Y., and has been appointed assistant professor of medicine and microbiology at the same institution.

Leslie M. Spitz, M.D., has completed his military tour of duty and is practicing internal medicine with the Midelfort Clinic in Eau Claire, Wisc.

James J. Stark, M.D., Brookline, Mass., has completed two years in the U.S. Public Health Service and is now a fellow in medical oncology at Harvard Medical School, Sidney Parker Cancer Center and Peter Bent Brigham Hospital.

IN MEMORIAM

Jules H. Copp, M.D.  . . . .August 23
Kirby A. Martin, M.D.  '22 . April 24
William W. Nobles, M.D. '23 . .July 3

Occupational Therapy

“and now, a word from our sponsor!” or

“Why an Alumni Annual Giving Campaign?”

What usually follows that opening phrase is a commercial that most of us try to tune out. Devotees of V. Arthur Fiedler’s Boston “Pops” Orchestra will recognize it however as the title of a delightful musical piece arranged for them out of a string of overly familiar melodies used to sell unneeded products, and it is hoped that what follows here will not turn you off, but will, if not delight you, favorably inform you.

Our sponsor is Washington University and the theme herewith is Alumni Annual Giving: This year’s campaign is starting, and here are some points to consider when you respond. The University needs the support of its alumni, always has, and always will. The number of alumni contributing to the support of a school profoundly influences the sources of large grants of money, such as the Danforth Foundation and the Ford Foundation. That makes sense doesn’t it? Conversely, what would you think of a school if none of its alumni contributed to its support? The answer is obvious, and it should also settle questions as to why Washington University is always asking you for money. Don’t be naive; all universities always ask their alumni for money. How is the money used? In one word—wisely. Washington University ended fiscal 1974-75 in the black—a statement which many institutions public and private sadly cannot make. For our University to do so means that its money was prudently managed, and also that your contributions helped to insure that the operating budget for 1975-76 does not include interest payments on loans the University would have had to obtain in 1974-75. To give one specific example, your contributions are being used to improve the medical school’s facilities for you, via its Department of Continuing Medical Education, under the guidance of Elmer Brown, M.D. ’50. You have received this year’s calendar which lists 23 courses designed for your continuing enlightenment. To state it idealistically, these courses will help you practice better medicine. To state it crassly, they will help you earn points which some organizations count, or which count with some organizations.

However you look at it, these courses are significant evidence of the concern of the Medical School for the quality of medicine practiced by graduate physicians. These courses are available not only to alumni but to all interested physicians. The Alumni Annual Giving Campaign will be conducted on a hospital by hospital basis in the St. Louis area, as well as by mailings throughout the year to Alumni. Don McClain, Associate Director of the Alumni Office on the “Hilltop Campus” is the liaison man who will coordinate the efforts of selected medical alumni on specific hospital staffs, where they will have the opportunity to make personal contact with other medical alumni. If the phrase “Alumni Annual Giving” implies that a pledge of “X dollars, annually, ’til death do us part” is sought, be assured that is not the meaning. Just as “everybody has to be somewhere,” every financial drive has to have a (good) name. Please regard it that way. Washington University Medical Alumni increased their support from 24% in 1973-74 to 31% in 1974-75, and in dollars from $93,387 to $114,593. That is salutatory, but as Samuel Gompers always wanted “MORE,” so do we, specifically, more Century Club members, contributing at least $100.00 in one year, and more members in the Chancellor’s Committee of 500. To join it, you contribute $250.00 in one year. The “500” originally meant 500 such alumni would be found. If more than 500 were ever found in one year the excess would still be welcome, and the name of the group could proudly be changed, but as membership came to 219 in 1974-75, the name of the category is no present problem. Alumni contributing $1,000.00 in one year become members of the Eliot Society, and memberships in it are a) available, b) carry special rewards to the member, beyond the satisfaction of such solid support of Alma Mater. Please consider placing yourself in one of these categories or in a higher one.

As Medical Alumni chance to marry Alumnae of Washington University’s other schools (arrange those genders to suit your own situation) contributions from such pairs are shared equally by the schools represented, unless the contributors direct otherwise.

Finally, as our great President, George B. Rader, M.D. ’51, put it regarding Medical Alumni dues, “if you don’t want a series of missives ad nauseum, pay up!” Your mailings are planned as part of the Alumni Annual Giving Campaign, but as soon as you make a pledge, subsequent mailings to you will cease. Needless to say, if a pledge can’t be met, no hassle will follow; we’d simply hope for better years to come. Remember, friends, when you receive letters or calls for the Washington University Alumni Annual Giving Campaign, you read about it here, and you know what to do, so just send in those pledge cards and letters promptly.

Thanks.

Jack Barrow, M.D. ’46
Chairman, Medical Alumni
Annual Giving Campaign
1975 Medical Center President's Report
Notes Activities, Accomplishments, Goals

Samuel B. Guze, M.D., president of the Washington University Medical Center, presented the annual report at the Board of Directors meeting, Sept. 23, disclosing that Medical Center institutions had given more than $5.7 million of free care during the past year, while completing construction and renovations in excess of $16.7 million.

The Medical Center includes Barnard Hospital, Barnes Hospital, Central Institute for the Deaf, The Jewish Hospital of St. Louis, St. Louis Children's Hospital and Washington University and its School of Medicine.

The focus of the president's report was on activities and events which exemplify the range of services, research and teaching programs at the Medical Center.

One of the Medical Center's major commitments has been to the central west end. The report noted that the redevelopment project is underway with the building of the Blue Cross building on Forest Park Boulevard. R. Jerrald King has been appointed Executive Director for the Redevelopment Corporation.

Other progress includes the selection of a developer and acquisition of land for a 250 unit apartment complex for the elderly on Forest Park Boulevard. Construction is scheduled to start in early 1976. Also, a major city bank is constructing a facility on Forest Park Boulevard scheduled for completion in the spring of 1976.

A major renovation of single family homes further east on Laclede Avenue is being planned and owners in the commercial area north of the Medical Center have made commitments for major rehabilitation.

"A critical element in our progress has been the cooperation from neighborhood associations and individuals living in the redevelopment area," Dr. Guze said. "The goals of the Redevelopment Corporation are to a large measure now consistent with the goals of the people who live in the central west end."

Another concern of the Medical Center has been new construction and renovation within the complex. Besides the Barnes underground garage in Forest Park and the Medical School's Library Archives building, this has included new offices, classrooms, laboratories and other facilities in Barns, Children's and Jewish Hospitals, as well as the McDonnell Medical Sciences Building.

"Research continues to be one of our essential activities," Dr. Guze explained. Nearly $22 million was spent for research in fiscal 1974.
An example of this commitment to research is evident in the fact that four major research centers were established last year at the Medical School. Grants in excess of $9 million were received to create the centers and provide support for the intensive study of diabetes, cancer, heart disease and neuromuscular disease.

The Medical Center also continues to be concerned with educational programs which includes the training of allied health professionals.

Total operating costs for the Medical Center were reported at $147.7 million, up from $131.7 million in 1973; with salaries totaling $76.3 million for 9,158, up from $70.4 million for 8,585.

In conclusion Dr. Guze said, “The last year has been exciting and gratifying. The statistical indicators again show more patients being treated, more days of care, more students, and an increase in our research budget.

"Of special importance, however, has been the emergence of the Medical Center as a major operating entity. Through the redevelopment project, the Medical Center has taken a major step to fulfill the role envisioned for it when it was formed in 1962.”

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Thomas Named Chairman of Board

Charles A. Thomas, Sc.D., was elected Chairman of the Board of Directors for Washington University Medical Center at the annual meeting.

Dr. Thomas co-founded Thomas and Hochwalt Laboratories in 1926 in Dayton, Ohio. This company, which specialized in research work for industrial organizations, became Monsanto’s Central Research Department in 1936 and Dr. Thomas began a 34-year Monsanto career.

After serving as central research director, he was elected to the Board of Directors in 1942 and served as Executive Vice President from 1948 until 1951 when he was elected President and Chief Executive Officer. In 1960, Dr. Thomas was elected Chairman of Monsanto’s Board of Directors and served until 1965.

Dr. Thomas replaces Raymond E. Rowland, who had served three years and whose efforts were praised by Dr. Guze at the annual meeting.

Other newly-elected officers are Harold E. Thayer, Vice Chairman; Lee M. Liberman, Secretary; Thomas Kenton, Jr., Treasurer. Reelected were Philip R. Dodge, M.D., Vice President; M. Kenton King, M.D., Assistant Secretary, and Hugh Morrison, Assistant Treasurer.
Heart Patients Jog Back to Health

Dr. Cooksey observes the monitors which indicate the jogger’s heart rate and changes in the electrocardiogram. This information is transmitted via radio-telemetry from a small receiver worn around the patient’s waist while jogging. Joe Lowder, an exercise physiologist, (behind Dr. Cooksey) helps supervise the program.

You won’t see anyone run the four-minute mile on the new WUMS indoor track.

What you see is people jogging and walking around the 4th mile oblong track on the fifth floor of the Irene Walter Johnson Institute of Rehabilitation. They are heart patients taking part in a new cardiac rehabilitation program under the direction of Jon D. Cooksey, M.D., assistant professor of medicine and preventive medicine and associate medical director of the Institute.

“We have documented studies which show that persons who have suffered heart attacks will be less prone to sudden death and will actually increase their work capacity, if they follow a regular course of exercise,” Dr. Cooksey said.

Dr. Cooksey said many heart patients are afraid of much activity for fear of overexerting themselves. The new program will provide supervised jogging and exercise and patients will be carefully monitored.

Although jogging will be the principal exercise, calisthenics and cycling may be included. Each person will be put on an individual exercise program, according to his or her abilities.

The object will be for the patient to build up physical endurance and strengthen the heart and vascular system. Normally, persons will exercise four days a week for 50 minutes.

Persons interested in participating will be referred to the program by their physicians and will be admitted only with their approval.

A brochure has been prepared to acquaint physicians with the rehabilitation facility.

While he believes the program will be one factor in decreasing the risk of heart attack for the patient, Dr. Cooksey said the program also will emphasize other factors such as quitting smoking, eating a well-balanced diet and losing weight.

Several studies also are being conducted on how exercise affects healthy persons. “These studies will look at oxygen consumption,” Dr. Cooksey explained. “Also echocardiograms will be used to determine the size of the heart and how well it contracts before and after exercise training.”
Concerts Scheduled At Medical School

Four noon concerts will be performed this year at Washington University School of Medicine for students, faculty and staff.

Sponsored by the Dean's Office and the Department of Medicine, the concert series has been named "Music in Moore" (Auditorium).

The first program will be from 1 to 2 p.m. Nov. 18 and will feature the St. Louis String Quartet.

Pianist Harold Zabrack will perform Jan. 19. Zabrack is the chairman of the Department of Piano at Westminster Choir College, Princeton, N.J.

The last two concerts will feature St. Louis Symphony musicians. John and Joan Korman will present a violin and viola concert March 8 and pianist Max Rabinovits, and pianist Barbara Liberman will perform May 10.

The last three concerts will begin at 12 noon.

Carl Frieden, Ph.D., professor of biological chemistry, initiated the program. "I hope these concerts are well received so we will be able to continue them beyond this year," he said.

WUMS Gets Funds For Neurology Chair

The Allen P. and Josephine B. Green Foundation has established the first pediatric neurology professorship in the country at WUMS.

Arthur L. Prensky, M.D., professor of pediatrics and of neurology and director of the Division of Pediatric Neurology, St. Louis Children's Hospital has been named to the post.

The half million dollar endowment establishing the professorship is one of many gifts to WUMS and Children's Hospital during the last decade to facilitate research, service and teaching in pediatric neurology.

The gifts began in 1964 when the Foundation established an endowment with an initial donation of $100,000 for the study and treatment of children with disorders of the brain and spinal cord and the Children's Hospital Division of Pediatric Neurology was established.

Dr. Prensky received the M.D. degree in 1955 from the New York University College of Medicine. He has been associated with WUMS since 1967. He was formerly an assistant in neurology, Massachusetts General Hospital and instructor at the Harvard Medical School.

He is a member of many professional societies, among them the American Neurological Association, the American Academy of Neurology, the Child Neurology Society, the Society for Pediatric Research, the American Academy for Cerebral Palsy, the Society for Neurosciences and the Central Society for Neurological Research.

Dr. Prensky currently is studying the flow of glucose carbon into amino acids and lipids in the developing brain during disease and the recovery from nonspecific neonatal insults such as starvation. He has recently co-authored a book, "Nutrition and Developing Nervous System," with Dr. Dodge and Ralph D. Feigin, M.D.

Stanford Professor Named Head of Urology

William R. Fair, M.D., has been named head of the Division of Urology at WUMS.

Dr. Fair was previously an associate professor of surgery at Stanford University School of Medicine. He replaces Robert K. Royce, M.D., associate clinical professor of genitourinary surgery, who had been acting head of the division.

Dr. Fair received the B.S. degree from Philadelphia College of Pharmacy and Science and the M.D. degree from Jefferson Medical College, Philadelphia.

After an internship at Womack Army Hospital, Fort Bragg, N.C., and two years active duty in the U.S. Army, Dr. Fair began a residency in urology in 1964 at Stanford.

In 1968, he was named assistant professor and was promoted to associate professor in 1969. He was named acting head of the Clinical Renal Transplantation Service at Stanford in 1973.

Dr. Fair began his duties at Washington University Sept. 1, upon returning from a one-year sabbatical at the Chester Beatty Research Institute in London, England.
Television Used for Patient Education

George J. L. Wulff, Jr., M.D. '38, associate clinical professor and director of the WU Obstetrics and Gynecology Outpatient Clinic, has originated and implemented an obstetrics and gynecology Patient Education Program at the Medical Center.

The programs are on video cassettes and are shown at specific times on the television sets in Barnes Hospital.

"I started showing programs on a viewer in the outpatient clinic waiting room several years ago," Dr. Wulff explained. "The response has been amazing. Every week we have patients who request another showing of a program or ask about a different topic."

Because of the favorable patient response, Dr. Wulff decided to branch out to benefit the inpatient as well.

"I think we are pioneers in the St. Louis area in this kind of patient education," he said.


Although many of these video cassettes have been purchased, Dr. Wulff has organized panels of specialists who are filmed introducing each film and who discuss the material when the program is complete.

Dr. Wulff also plans to produce some different programs. Topics to be covered include how to bathe a baby, pap smear, venereal disease, vaginal exam, family planning, fertility, fetal monitoring, high risk pregnancy and cesarean section.

A television guide to the programs is given to obstetrics and gynecology patients as they are admitted to the hospital. The guide also contains a questionnaire for the patients' evaluation of the teaching value of each film. Dr. Wulff will use the evaluations to improve the Patient Education Program.

300 Attend Diabetes Center Opening

More than 300 persons attended the formal opening of the Diabetes and Endocrinology Research Center Sept. 12. George Cahill, M.D., president of the American Diabetes Association was the featured speaker. Following tours of the five facilities (Clinical Research and Education, Radioimmunoassay, Morphology, Tissue Isolation and Culture, and Mass Spectrometry), Dr. Cahill spoke on "The Future of Diabetes Research." He mentioned that WU/S has been a "trail blazer" in diabetes research, and that the National Institute of Arthritis, Metabolism and Digestive Diseases had recognized an ongoing multi-disciplinary group with the $2.5 million grant for the next five years. William H. Daughaday, M.D., professor of medicine and director of the Division of Endocrinology and Metabolism is director of the Diabetes Center.
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Calendar of Continuing Medical Education

1975

DECEMBER

5  “Current Topics in Diabetes”
   Program Chairman: Dr. Charles Kilo

1976

FEBRUARY

5-6  “Current Concepts in Pulmonary Medicine”
    Program Chairman: Dr. Robert Senior

21-28 Washington University Alumni Association Clinical Conference
    Montego Bay, Jamaica
    Program Chairman: Dr. George Rader

MARCH-MAY

“Internal Medicine Board Review,” Jewish Hospital
   Program Chairman: Dr. Paul Stein and Dr. Diane Karl

MARCH

4-5  “Clinical Endocrinology”
    Program Chairman: Dr. Philip E. Cryer

11-12 “ENT”
    Program Chairman: Dr. Donald Sessions

25-26 “Atherosclerosis—Reversibility of the Lesion”
    Program Chairman: Dr. Gustav Schonfeld

APRIL

2-3  “Rheumatology for the Practicing Physician”
    Program Chairman: Dr. Bevra Hahn

5-6  Third Annual Symposium on Obstetrics and Gynecology
    Program Chairman: Dr. George J. L. Wulff, Jr.

8-9  “Update in Gastrointestinal Diseases”
    Program Chairman: Dr. Gary Zuckerman

23-24 Radiation Therapy Techniques Workshop
    Program Chairman: Dr. Lily Hanes

23-24 Washington University Eye Alumni Meeting

30 Symposium on Depression
    Program Chairman: Dr. Paula Clayton

MAY

6-8  “Current Concepts in the Practice of Medicine—1976”
    Program Chairman: Dr. Jerry Meyers

12-14 Washington University Medical Center Alumni Reunion—“A Postgraduate Course in Cardiology”
    Program Chairman: Dr. Burton Sobel

19 “Surgical Problems in Children”
    Program Chairman: Dr. Martin J. Bell

20-21 “Radiation Safety and Quality Control in the Biomedical Environment”
    Program Chairman: Dr. John Eichling

For additional information, write:
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