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Brian Dieckgraefe, an M.S.T.P. student, and Mae F. Go, fellow in gastroenterology, examine a co-worker's autoradiograph. For these researchers, who work in the Department of Medicine, the move to the CSRB has meant trading cramped, antiquated facilities for spacious, modern laboratories.
The Heart of the Medical Center

Physician/scientists in clinical departments at the School of Medicine expand the breadth and depth of their research as they move into new research facilities. The 10-story, $55 million building, dedicated this fall, relieves a chronic shortage of space. What research projects are planned for the new facility?

Rare Books and Archives:
Unearthing the Treasure

Pearls of wisdom and nuggets of naivete sparkle side by side in a "gem" of a collection — the medical archives and rare books. A gold mine of history — medical facts and fiction — awaits prospectors.

Dealing with Feelings

Psychological healing for burn patients can overshadow medical recovery. But the prospects for total recovery are enhanced at the Burn Research Unit at Barnes Hospital, thanks to an innovative approach by the staff and a former patient.

Medicine and Mycology

Within the soil of the midwest lurks a mycological menace — histoplasmosis. This fungus's ability to grow as either a mold or a yeast is more than a physiological fluke; it stymies research — except at the Medical Mycology Center.

Student Stage: Jennifer Coles

Clinical research occupied an important segment of Jennifer Coles's student days. A paradoxical kidney anomaly she discovered in healthy newborn infants earned kudos from a national medical society and the medical school.

Personal Outlook: Lawrence Kahn

Newsbriefs

The Alumni Report

Silhouette: Jeannie Kinzie

Letters
The Heart of the Medical Center

After nearly three years, traffic is flowing again on Audubon between Kingshighway and Euclid. But Audubon will never be the same. For overshadowing it, and straddling it, is the towering brick and steel structure that made its mark even before it was put into use. It is the new, 10-story Clinical Sciences Research Building (CSRB).

Designing a building that would best utilize the available chunks of land posed a problem — but not for long. Architects and engineers from Hellmuth, Obata and Kassabaum, Inc., solved the predicament by placing a core building (called Olin Tower) between north and south towers in a roughly S-shaped overall structure. In a way, this design dilemma served as an unexpected blessing. The imposing structure, visible from Kingshighway, is centrally located among all the institutions comprising the Washington University Medical Center. Thus, the CSRB is, according to many like the School of Medicine’s Assistant Vice Chancellor Robert Hickok, “the heart of the medical center.”

The CSRB has spacious passageways leading to the new Children’s Hospital (at Kingshighway and Audubon) and to Jewish Hospital; glass-enclosed walkways connect the Wohl Clinic Building’s second and fifth floors to the CSRB’s south tower (named McKinney Tower). And the CSRB’s west facade overlooks Forest Park. Seasonal changes — spring’s pale green, fresh and new after St. Louis’ harsh winters; autumn’s golds, russets and browns — will be a refreshing sight to researchers in the building’s eight floors of laboratories.

It is said that the CSRB is unique, that few academic medical centers have a building of such size devoted solely to clinical research. Certainly, the CSRB is the largest construction project ever undertaken by this university. But the building is more than a facility — it is a symbol of the interconnectedness of all the institutions at the medical center.

The plan for distributing the CSRB’s $55 million price tag called for the School of Medicine to fund the building’s skeleton, while some of its clinical departments — medicine, radiology, surgery, pathology, psychiatry, and anesthesiology — paid to finish the laboratories. The remaining funds were derived from a capital fund drive.

For some departments, the building represents a chance to expand well-developed research programs. For others, the facility offers a chance to do what was impossible before, due to lack of space: build a growing, excellent corps of researchers. And the building’s second floor contains an open, light-filled conference area and lounge that invite all who pass through to pause. This common space will provide an environment to nurture the interdepartmental collaboration for which the medical center is famous.

The Promise

The building’s physical resources, coupled with its proximity to Children’s and Jewish hospitals and its link to the School of Medicine, Barnes and Barnard hospitals, have been an undeniable help in recruiting top researchers. Many of them are young scientists/clinicians who show great promise early in their professional careers. For example, David Kipnis, M.D., head of medicine, was able to recruit four new Howard Hughes investigators. “We have already had several very active Howard Hughes investigators, especially in clinical allergy/immunology and rheumatology,” says Kipnis. “We are looking forward to recruiting well-trained physician/scientists to expand our research horizons.”

Kipnis says that they plan to extend research efforts in the molecular biology of immunologic disorders, immunogenetics, oncology and hematology. “The consequences of these research projects will become apparent as we define abnormal events accounting for these disorders and design rational strategies for treatment, prevention and care, rather than relying heavily on the empirical, as we have in the past,” concludes Kipnis, Adolphus Busch Professor of Medicine. And by 1985, the Department of Medicine and its divisions will have an additional eight to 10 young, sought-after investigators, asserts Kipnis, who is also chief of medicine at Barnes Hospital.

The Department of Medicine has the largest allotment of space in the CSRB. The divisions of pulmonary medicine and gastroenterology will occupy substantial lab space in the new facility. Research in pulmonary medicine has attracted protein chemists, connective tissue chemists and cell biologists who will explore the basic mechanisms of diseases like asthma, chronic obstructive lung disease, and smoking-related pathologies. Comparably skilled investigators in gastroenterology will use cell biology and recombinant DNA technology to study the regulation of gene expression and immune dysfunction responsible for the cause of diseases like regional enteritis and ulcerative colitis.

Samuel A. Wells, Jr., M.D., head of surgery, enthusiastically enumerates the many research projects conceived because of the new facility. Prominent among them is a collaborative effort between James L. Cox, M.D., chief of cardiothoracic surgery, and Burton Sobel, M.D., chief of cardiology. They will merge their respective research interests to investigate disturbances in cardiac rhythm. In fact, says Wells, the CSRB and its proximity to Children’s Hospital will foster the development of these projects.

Architects and engineers from Hellmuth, Obata and Kassabaum, charged with designing the Clinical Sciences building, proposed a three-towered structure to fit the space available. The 10-story building is the largest construction project ever undertaken by Washington University. Research and equipment laboratories number over 180 and are located on the upper eight floors, averaging over 30,000 square feet per lab floor.
velopment of a top program in pediatric cardiology and cardiac surgery. "Dr. Cox, new to the medical center himself, has also succeeded in recruiting other excellent investigators," recounts Wells, who is Bixby Professor of Surgery. "Rather rapidly, they have been able to build this large nucleus of people who are very talented clinically as well as investigatively. We could not have done that without the Clinical Sciences Building."

Additional surgical projects will utilize the CSRB and its proximity to the medical center hospitals. For example, members of the currently existing bone and mineral metabolism group at Jewish Hospital, which Wells labels as "one of the best in the world," will collaborate with surgeons like Paul Manske, M.D., Fred C. Reynolds Professor of Orthopedic Surgery, whose research specialty is tendon healing. The group will also benefit from the recent addition of David Simmons, Ph.D., whose work has been supported by NASA and NIH. Simmons has investigated changes in bone in a gravity-free environment. Jeffrey Marsh, M.D., associate professor of surgery in pediatrics (plastic and reconstructive surgery), will continue his research on craniofacial surgery by collaborating with Michael W. Vannier, M.D., assistant professor of radiology. Vannier developed a computer program that reassembles cross-sectional CT scans into three-dimensional images that aid Marsh in surgically correcting facial disfigurement.

One of the strongest surgical research programs at the medical center - tissue transplantation - will be able to take a giant leap forward, thanks to the lab space available in the CSRB. Paul Lacy, M.D., Ph.D., Edward Mallinckrodt Professor of Pathology, is stepping down after 23 years as head of the department. But he will continue his collaboration with David W. Scharp, M.D., and Joseph M. Davie, M.D., Ph.D., professor of pathology and head of microbiology and immunology. Scharp, associate professor of surgery, will move to the CSRB and continue his research on pancreatic tissue transplants to cure diabetes in animals. Lacy, Davie and Scharp have developed several techniques for obtaining and transplanting insulin-producing cells to relieve diabetes symptoms in transplant recipients.

Soon, says Lacy, the first phase of clinical research on humans will begin: "We hope in the not too distant future to transplant human islets into diabetic patients. Lacy explains that the first set of patients chosen for this research will be adult diabetics who are already on immunosuppressant drugs because they are receiving a kidney transplant. The drug will prevent rejection of both the kidney and the islets. "That way, we'll know if we're using enough islet cells in the procedure," says Lacy. "The next step would be to select a group of patients and treat the islets to rid them of lymphoid cells, using the methods we've developed in rats. Thus, islet transplantation could overcome diabetes without using immunosuppressive drugs, thereby avoiding the drugs' dangerous side effects. And by correcting diabetes in children, the promise of a long and healthy life - free of the long-term effects of diabetes - may be realized.

Children will also benefit from a vigorous expansion of psychiatric research into areas previously unexplored at the medical center. "We have reorganized our child psychiatry division," says Samuel B. Guze, M.D., Spencer T. Olin Professor of Psychiatry and head of the department. "Our inpatient and outpatient treatment units will be located in the new Children's Hospital. In addition, we're consolidating the Child Guidance Clinic there." Guze and Felton Earls, M.D., Blanche F. Ittleson Professor and director of the division of child psychiatry, plan to develop research programs to parallel those in general psychiatry. Recruited from Stanford, Richard Todd, M.D., Ph.D., will be, according to Guze, "the first person on our staff who's been trained in neuroscience research as related to child psychiatry." Sheldon Preskorn, M.D., a psychiatrist from the University of Kansas, has research interests that center around neuropsychopharmacology; he will explore the brain mechanisms that account for the therapeutic action of psychoactive drugs.

Preskorn's expertise complements that of Boyd Hartman, M.D., professor of psychiatry and neurobiology. Additionally, their research team will benefit from new faculty member Gene Reuben, M.D., Ph.D., and his knowledge of pharmacology. "We have many new young faculty members who will spend about 80 to 85 percent of their time working on research, made possible by the additional space in the CSRB," concludes Guze, who is also Vice Chancellor for Medical Affairs.

The additional space in the CSRB will also be home to Emil Unanue, M.D., new
The building links all the institutions at the medical center via enclosed pedestrian walkways. Within the CSRB, the passageway expands to a broad concourse framed by structural trusses supporting the building over Audubon Avenue. This open space doubles as a lounge and conference area.

head of pathology. Unanue and colleagues study the cellular basis of the immune response in normal and pathological states. They have shown that a number of crucial cell-to-cell interactions take place when the immune system responds to the presence of microbial invaders or other proteins which it recognizes as foreign (antigenic). Some of these interactions involve macrophages, lymphocytes and other cells that "process" invaders.

In addition to individual cells' responses, there is also cellular cooperation — macrophages regulate how lymphocytes respond to invaders. These cellular interactions are essential for lymphocytes to mount resistance to microbial agents. Unanue and colleagues have shown that in some experimentally induced infections, these cellular interactions are interrupted, resulting in uncontrolled responses. Unanue will continue these investigations in order to more fully understand how these cellular interactions govern the immune response.

The ripening potential for interdepartmental collaboration will continue to mature in many areas, as in psychiatry and neuroradiology. Ronald Evens, M.D., director of the Mallinckrodt Institute of Radiology, is unabashed in his enthusiasm for the promise the new building holds. In addition to expanding current research efforts in radiation oncology and radiation therapy, the department's division of computer science is embarking on an exciting new activity: "We'll be able to look at X-rays without having to use X-ray film," says Evens, Elizabeth E. Mallinckrodt Professor of Radiology. PACS — Picture Archiving Communications Systems — can send
digitized data directly from the X-ray machine to a sophisticated TV screen for viewing by a radiologist. The data can be stored in the computer, allowing the image to be called up anytime.

Best of all, says Evens, the system allows for simultaneous viewing of the image at any suitably equipped location. "That way, doctors around the world can view an image that's particularly interesting. This system also allows for selective adjustment of the image, for improved diagnosis. You will be able to make shades of gray or colors brighter or lighter — to adjust the contrast," continues Evens. "You can also do computer analyses of different parts of the image."

This degree of sophistication has only been possible because of collaboration between the Department of Radiology and the Computer Science Division in the School of Engineering at the main campus. (Underneath the large bridge of the CSRB lies a conduit of computer cables.)

A microwave tower connects the Mallinckrodt Institute of Radiology with Lopata and Sever halls at the School of Engineering.

Evens describes a major change in one of the department's principal programs in radiation sciences — expansion of the PET projects in collaboration with the division of cardiology and the Department of Neurology. A pneumatic tube from the Mallinckrodt Institute's cyclotron will send radioisotopes over to the CSRB's nuclear imaging machines, which will include a new $750,000 positron emission tomography (PET) scanner being built for the facility by Michel Ter-Pogossian, Ph.D., professor of radiology (radiationsciences). "We'll be doing radiologic studies on animals in the CSRB, while continuing our clinical research at the Mallinckrodt Institute," says Evens. "Our other major area of expansion is nuclear medicine," he continues. "We'll be trying to develop better radioisotopes to use in PET and in the study of various blood diseases — clots, stroke and myocardial infarction — to try and understand why they develop."

For William D. Owens, M.D., newly named head of anesthesiology, the CSRB provides a chance to begin research that has been severely constrained because of space. "Dr. Joe Henry Steinbach, one of the foremost young physiologists in the country, has just arrived," says Owens, Henry E. Mallinckrodt Professor of Anesthesiology. Steinbach brings two postdoctoral fellows with him from the Salk Institute, to collaborate with Gerald Fischbach, M.D., Edison Professor of Neurobiology, on research projects involving the neuromuscular junction. "This work ties in very well with anesthesiology because of the mechanism of muscle relaxants," discloses Owens, chief of anesthesiology at Barnes and Children's hospitals. "Eventually, we would like to build a complete research effort, which no other institution in this country is doing. Some people are studying the pharmacology, some the physiology, some the anatomy of the neuromuscular junction. I would really like to put together a group of researchers that work together and approach it all at the same time." Owens concedes that Fischbach's well-established, world-renowned research program was "a major factor" in recruiting Steinbach.

In addition, Owens has recruited Alex Evers, M.D., from Massachusetts General Hospital. Evers will be supplementing his clinical training in internal medicine and anesthesiology by working in the laboratory of Philip Needleman, Ph.D., Alumni Endowed Professor and head of pharmacology. Eventually, Evers will study the mechanisms of stress response in critically ill patients.

Owens, medical director of respiratory therapy and co-director of the surgical intensive care unit at Barnes Hospital, has also recruited a UCSF anesthesiologist, Mark Poler, M.D., whose research area is renal physiology. Poler will spend time in the laboratory of Luis Reuss, M.D., professor of physiology and biophysics. "Very little basic research has been done concerning the effects of anesthesia on renal function," says Owens. "And later, we hope to develop some type of core clinical lab, not for
bench researchers, but to aid the clinician who's analyzing blood or urine for various substances affected by anesthetic agents."

**Challenges**

Once a building is finished and its occupants move in, a sense of completion creates complacency. But in the case of the CSRB, that complacency is completely unwarranted. For one thing, the Department of Anesthesiology has to start from scratch in equipping its labs — computers, chromatography, high-speed centrifuges, cell culture equipment. "We also need several $15,000 Zeiss microscopes," says Owens with a smile. "I happen to know the price because I just finished looking at the catalogue."

Equipment needs vary according to department. Says Evens: "We are adding several large, specialized pieces of equipment to our computer facilities. Some are electronic storage devices, others are one-of-a-kind prototypes that are being built for our evaluation. Magnetic disk drives, special kinds of TV screens — we'll need 10 or 15 pieces of equipment, each costing between $10,000 and $25,000."

But besides the elegant, exclusive, costly machines needed for research, the mundane expenses for the CSRB seem to weigh heavily on the minds of the researchers who occupy the facility. And Kipnis points out that the CSRB is quite unusual in these days of widespread concern over the fiscal viability of academic medical centers as sites of biomedical research. "Institutions such as Washington University successfully compete on the national scene for funds, both federal and private. But federal monies are diminishing in availability," Kipnis continues. "Therefore, we're heavily dependent on philanthropic support. Our top priority is obtaining adequate funds to remain on the 'cutting edge' insofar as state of the art equipment is concerned, and obtaining enough venture capital to be competitive when promising research opportunities come along."

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The enclosed walkways, between the CSRB's second floor and the Wohl Building on the south and Jewish and Children's hospitals to the north, streamline pedestrian movement and patient transfer.
Several delicately colored engravings hang near the entrance to the Archives and Rare Books annex of the Washington University School of Medicine Library. They picture Saint Lucy, fourth-century virgin, martyred for helping the needy. Blinded by her accusers, she became the patroness of the eyes; traditionally, she appears offering to others the gift of sight.

Like Saint Lucy, the library annex also provides a kind of vision, a dual perspective on medical history. As Rare Books Division, it contains 12,000 volumes from the 15th through 20th centuries, documenting the history of medicine over the past five centuries. As Archives Division, it includes 956 linear feet of institutional and related history, with materials as diverse as 1812 correspondence and up-to-the-minute press releases.

While distinctly different, the two collections also have much in common. Since 1974, they have shared a compact, humidity-controlled building—a former refrigeration repair plant—at the corner of Taylor and Scott avenues, just a block away from their parent medical library. And since the 1960s, after decades of neglect, both divisions have grown and taken shape through steady acquisition, careful cataloguing and judicious pruning.

The two collections share something else: an extraordinary value to the School of Medicine and beyond. In financial terms, the rare book collection alone carries an insurance value of $1 million. Less tangibly, the archives are “very important in terms of the history of medicine,” says Paul G. Anderson, Ph.D., archivist. In comparison with collections elsewhere, both have much the same size, and even larger ones in certain specialties, “we are really first-rate,” says Christopher Hoolihan, rare books librarian.

Too often, though, this significance goes unnoticed. The archives, with their obvious relevance to the university, are somewhat better recognized. “But the rare book collection is one of the least known resources here. I would say that it is probably better known outside St. Louis than here,” says Hoolihan.

So why? “It’s difficult for me to say. There may be a lack of historical interest at this institution. It’s a very prestigious institution for medical research, medical education and so on. But fewer people seem to have time for history.” Usage has been increasing by 10 percent each year, an encouraging sign to Hoolihan. “A collection like this should be used more, though,” he adds emphatically. “Our purpose is not custodial.”

Anderson and Hoolihan hope eventually to increase visibility and usage through a new library building, which would house the general collections, along with archives and rare books. Meanwhile, they are working with the Biology Department on a spring symposium covering the history of medicine and life sciences.

Resembling a primitive mask, this is actually one of 53 photogravures from an atlas of head sections by Sir William Macenean. Published in New York in 1893, it represents one of the best atlases of head sections from the late 19th century.
German medical historian, Professor Julius Leopold Pagel. After that, the rare book collections lay dormant for close to 50 years, until Estelle Brodman, Ph.D., a trained medical historian and bibliophile, was appointed librarian and professor of medical history. And today, rare book acquisition is active, mostly in areas of existing strengths: ophthalmology, otology, midwifery and obstetrics, and neurology. Some come in as gifts. “We have widows of physicians who call up and say ‘my husband’s library is still sitting in the house after 15 years. Would you like to come look at it?’” Hoolihan says.

They also have an acquisitions budget, though it is not large enough to send Hoolihan on buying trips to Europe or even to New York City auctions. It allows him to keep in touch with approximately 60 dealers worldwide who specialize in rare medical books. “There’s no scarcity of books, but prices are astronomical. Rare book prices probably go up ten percent a year. With competition from other libraries and book collectors, some of them investors, it gets more and more difficult to buy,” says Hoolihan.

In a “sweep” several years ago, Hoolihan also gleaned some 1,000 titles from the medical library’s general collections, where “some really remarkable books were just sitting on the open shelves.” Last year, he organized a sale of rare book duplicates “and did terrifically. We sold them for three to four times what I thought we would. The money will all go back into the purchase of more rare books.”

Within the collection itself, there is a strong dose of naiveté and misinformation. A 1496 work by Petrus Lacepiera deals with the eye and its diseases, as well as the “evil eye,” or the eye as a reflection of moral character. Among the Goldstein books are works on “chiromancy” — foretelling a person’s future by the lines on his hand. In one 16th century zoological history, Conrad Gesner has placed unicorns and sea serpents side-by-side with elephants and lions.

On the other hand, “physicians doing research today are often amazed at how much the earlier scientists knew about certain conditions,” Hoolihan says. Georg Bartsch’s Augendienst, published in 1583, has 91 woodcuts showing different operations on the eye. To treat cataracts, for instance, physicians used a couching needle to push the lens into the lower part of the vitreous chamber. In a 1597 work largely ignored by his contemporaries, Gaspare Tagliacozzi described methods for skin grafting and reconstruction of the lips, nose and ears, techniques not adopted until the 19th century.

Even apparently naive ideas often stimulated later medical research. The library has a number of works in “phrenology” (studying moral and intellectual capacity through the formation of the skull) by authors like Franz Josef Gall, prominent physician and anatomist of the brain. “He was attacked by some
of his 19th century contemporaries for his ideas," Hoolihan says. "Yet his work was also the beginning of scientific attention to brain function localization."

These early texts can be depressing, Hoolihan admits, especially in one of the collection's strongest areas: obstetrics and midwifery. As surgeon John Douglas wrote in 1736, in *A Short Account of the State of Midwifery*, "Is it not very surprising, nay and unaccountable, that though almost all the other parts of surgery have been cultivated with great assiduity by the most knowing men . . . the operations necessary for the safety of women in labor and their children . . . seem to have been entirely left to a parcel of ignorant women or to men little better qualified than they?"

"Physicians were working with a great deal of humane interest in the women's welfare, but with severe limitations of knowledge," says Hoolihan. "They understood the mechanics of labor correctly by the mid-18th century, they understood [uterine] version and the use of forceps, which saved many lives. But they understood nothing about puerperal infections. A lying-in ward would have an attack of puerperal fever and the mortality rate could easily be 90 percent."

More enjoyable for Hoolihan, rare books librarian for six years, are the collection's illustrated books, representing a complete history of medical illustration: 16th century woodcuts of an operating room scene, with a cat gnawing its prey in the corner; 18th century copperplate engravings of the heart; exquisite 19th century lithographs of a full-term fetus; the vivid colors of chromolithography showing the interior of an eye; and 1897 photogravures of the skull, resembling tribal masks.

"Enclosed I send you the results of a few experiments carefully made upon the gastric fluids of the stomach of Alexis Saint Martin . . . . I regret very much that it is not in my power to offer more varied and satisfactory results but unfortunately . . . . he has absconded and gone to Canada. I fear very much I shall not be able to recover possession of him again. He was unwilling to be experimented upon." — 1826 letter from William Beaumont

As army surgeon at Fort Mackinac in Michigan, William Beaumont treated St. Martin's 1822 gunshot wound; the patient lived, but the wound healed with a fistula that exposed the interior of his stomach. Beaumont eagerly used this window to study digestive processes, thereby establishing his reputation. But his correspondence over two decades "shows the long and interesting story of St. Martin's impatience and Beaumont's desperate efforts to get him back," says Anderson.

Acquired in 1915, the Beaumont collection became "the first, the earliest and perhaps the most important group of private papers in the Archives," Anderson says. But like the rare books collection, the archival collections also remained rel-
An 18th century copperplate engraving of the heart by G. M. Lancici. "De motu cordis..." (on the movement of the heart), published in Rome, is a treatise on the physiology of the heart and aneurysm.

Atively dormant until 1961, when an effort to write an official history of the medical school revealed a dearth of material. Soon the project gained an archivist and another major group of papers — those of Nobel Prize winner and physiologist, Joseph Erlanger.

The Archives, under Anderson's direction since 1980, are now a potpourri of institutional records, manuscripts of faculty and others, personal papers, picture collections, faculty publications, archival serials and photos. There's the occasional odd item such as the cathode ray tube used by Erlanger for his experiments in oscillography, or a brass microscope used by Gustav Baumgarten, M.D., during his European studies. And some items look tantalizing — unfinished autobiographies or an unpublished book by Leo Loeb, M.D., called *Psychical Goods*.

"Almost nothing" is bought, says Anderson. In fact, he "would not consider buying anything except some very choice items from the 19th century." Instead, he says, the Archives relies on gifts, acquired through gentle prodding: "Our most successful appeal has an unfortunate cast to it — when a prominent physician dies and the family doesn't know what to do with the papers that are left." Despite Anderson's best efforts, though, families have also thrown collections away:

"That's a constant problem. Even the greatest minds have ignored our appeals and valuable things have been destroyed."

In 1970, an oral history project began recording interviews with prominent faculty and others related to the School of Medicine. Lee Cady, for instance, talks about his experiences as commander of the affiliated unit that served in Europe and North Africa during World War II; Frances Stewart reminisces about helping to found the first family planning unit in St. Louis. Along with factual information, these tapes give a sense of personality, "especially important since people reveal their personalities less and less through letters," Anderson says. But letters can be poignant.

"Dear Ernie: I suppose you have heard
by this time from one source or another about the irony that fate has played on me. I think I told you a little while ago that I seemed to have picked up a bad flu bug. After going along without any particular progress for about six weeks, I decided to come in for an examination. It was found then that I had x-ray evidence of a bilateral involvement of bronchiogenic carcinoma . . . I was very anxious for you to be one of the first ones to know about my illness because of my great interest in you and because of our long and happy cooperation in trying to defeat the enemy who seems to have got the best of me now." — Evarts A. Graham, M.D.

This 1957 Graham letter, written to research colleague Ernest L. Wynder, M.D., comes less than a month before his death. Graham, who had stopped smoking some five years earlier, goes on to hope, wistfully, that his illness won't undercut his own theory of the relation between smoking and lung cancer: "I don't think anyone can bring up a very forcible argument against the idea of a causal connection with smoking because after all I had smoked for about 50 years without stopping."

Other letters are exuberant. Erlanger, just awarded the 1944 Nobel Prize in Physiology and Medicine, writes an emotional letter to the editors of the Journal of Neurophysiology, thanking them for prominently mentioning his honor. But letters also point up personality quirks. In his letter to the journal, Erlanger can't resist testily pointing out an editorial inaccuracy. In a letter to the Nobel Committee, his second nomination of Carl and Gerty Cori for the prize, Erlanger is respectful but distinctly impatient.

Anderson's favorites include papers and memorabilia from Edmund V. Cowdry, M.D., and Paul Stevenson, M.D. Both taught in China, beginning in 1917, and Stevenson's papers include photos and descriptions of Chinese life in the '20s and '30s. Cowdry went on to have a many-tiered career: in Africa, studying yellow fever and malaria; at the School of Medicine, where he focused on cancer; and toward the end of his life, in gerontology.

"It's vital for so large and important a collection of institutions as the Washington University Medical Center to have a sense of its history," Anderson says. The Rare Books and Archives provide a delightful place to acquire it.

Rare Books and Archives, annex building at Taylor and Scott Aves., 8:30 a.m. to 5 p.m. weekdays (other hours by arrangement), (314) 534-0643.

Candace O'Connor is a St. Louis-area freelance writer.

The archival collection of letters, below, includes original writings by William Beaumont, the 19th century army surgeon whose experiments upon Alexis St. Martin provided the first clearcut evidence of how the process of digestion works. Twentieth century researchers whose writings are found in the School of Medicine Archives include Evarts Graham and Nobel Prize winner Joseph Erlanger.

Using the Collection

An Indiana University graduate student wants information on childbirth in the 19th century. A member of the law faculty here needs to trace some words that John Locke used in his philosophical and medical writings. An ophthalmologist from Tennessee tries to identify the particular eye disease that afflicted Stonewall Jackson.

Some 500 requests come in annually for the rare books. Out-of-town users are attracted by the Ohio College Library Center's shared cataloguing system (OCLC), which brings information about the collection to borrowers nationwide. One barrier to increased usage, though, is language. Overall, only 30 percent of the collection is in English. The rest is a mixture of Latin, Italian, French, German and classical Greek.

In general, the Archives are "less underused than the rare books. People more readily grasp the institution's own historical importance," says Paul Anderson. Last year, 509 users requested all kinds of data, such as historical materials on the Department of Physiology for the American Physiology Society, or photos for staff members showing how the center has changed through the years. A researcher even asks whether Charles Lindbergh was ever involved in work leading to the artificial heart pump.

Recognizing that users may not be scholars, the archival material is organized to be concise and accessible. Rather than grouping by type (all pictures together or all letters, for instance), the staff respects provenance and organizes materials by original order and by collection. Sensitive documents are also respected. To discourage snooping, materials may be temporarily closed, usually for a period of 25 years from the date of the last paper in the group.
Dealing with Feelings

By Mary Bagley

After the explosion, I couldn't walk into my laminating factory without smelling smoke," explains burn patient Norma Stern. "I knew it must be psychological, but I couldn't stand it."

Stern, who suffered third degree burns over 43 percent of her body, is describing the searing legacy from an explosion of a volatile cement used in the laminating process. The blast burned her hands, arms, legs and insteps. Ashes scattered from the explosion also scorched her lip, hair, scalp and waist.

Two years have elapsed since the explosion, and Stern is still recovering. During that time, she underwent two skin grafts; for 17 months, her legs had little mobility. As Stern received physical and occupational therapy through the Irene Walter Johnson Institute of Rehabilitation, she gradually regained normal range of motion in her arms, hands, legs and ankles.

Although her physical problems are nearing an end, her psychological problems are not: "I only fill the gas tank in my car half full, in case I get hit from behind and the car explodes," she says. "I look for exits and doors no matter where I go. I even slept on the floor of my living room for six months just so I could see the door."

Medical treatment for a burn patient — including daily dressing changes, prevention of shock and infection, drug therapy and skin grafts — may not always be enough. Often, the road to recovery also requires psychological counseling and support.

"Burns pull and contract; medical treatment may last for a period of six months to two years," explains William W. Monafo, M.D., director of the Burn Center. "But the severely burned need psychological support."

Recovering

Because burns are so painful and traumatic, a volunteer group composed of recovered burn patients and their families was formed at Barnes Hospital.

Known as Dealing with Feelings, it meets monthly in the Burn Unit. This year-old, 15-member group has become an accepted part of burn care.

"The group, Dealing with Feelings, offers reassurance," says Monafo, professor of general surgery. "There's always someone worse off than you. Group members can 'bounce off' one another psychologically." Members of Dealing with Feelings visit newly hospitalized burn patients to offer doses of reassurance and understanding laced with practical information. But more importantly, a visitor who's a former burn patient is living proof that recovery is in the offing, something that dejected burn patients have a hard time believing. And to round out the picture, patients' family members receive a dose of TLC from the families of recovered burn patients. This personalized attention for patients' relatives, who are often reeling from the stress caused by this unexpected crisis, can make a substantial difference in the recovery of the whole family.

The group's meetings are held outside the medical environment. It is an overall package; members mull over common problems, discuss diets and therapy — and bask in the glow of camaraderie that develops from their shared experiences.

"Many burn patients have fears of rejection because they are scarred," Monafo says. "They worry their wife will leave them or that they'll go blind. But many fears are unfounded, as our patients discover."

Dealing with Feelings is not a new idea. According to Monafo, Archibald McIndoe founded a self-help group of burn victims ("the Guinea Pigs") in England several decades ago. (As late as the 1940s, anyone who received third-degree burns on only 30 percent of the body was not expected to live.)

Some patients felt a need for a similar group at Barnes. "I can never tell you how helpful this group has been," Stern says. "I was in the hospital for six and a half weeks. When I came home, the psychological trauma set in. My body was disfigured, and I was in a wheelchair. I felt alone, hopeless and helpless. After a few months of this, I knew I needed help. Fortunately, I was able to get it from Sara Schmeer (social worker in the Burn Center). We both felt that there was a need for a support group for recovering burn patients."

Thus, from Stern's pain and trauma, and the professional expertise of Schmeer, Dealing with Feelings was born.

"The members of the group have a strong desire to help others," Schmeer says. "Having experienced the trauma themselves, they feel they have something to offer. They also have a strong desire not to let this happen to anyone else."

The group has instituted the "Alarms for Life" program. Schmeer and Stern have joined forces with a City effort, "Operation SafeStreet," to distribute smoke detectors free of charge to City residents. "They may find a cure for cancer, but there will always be fires," Stern says. And Monafo points out that many burns they treat, that are a result of house fires, could have been prevented or minimized if a smoke detector had been in place. By visiting schools and appearing at health fairs, members of Dealing with Feelings show their determination to educate the public about fire prevention.

Special Needs

Burn patient Robert Shillito is one of the newer members of Dealing with Feelings. A Union Electric employee, he received burns through an arc short circuit, which caused 4,150 volts of electricity to pass through his arm. The intense heat created third-degree burns over 30 percent of his body. "Most electrical burns are third-degree because of the high voltage," he says. "I didn't lose consciousness or get frightened — I think I went into shock as they were treating me.

"In the Burn Unit, I was asked if I would like any help," Shillito says. "I didn't allow myself to get depressed, so I wondered if I needed any counseling. But it gave me a nice feeling to know someone cared."

"People say, 'I know how you feel' — but they don't," he continues. "I needed plastic surgery on my face and eyelids.
The worst part for me was the healing of the donor site — the place where they had taken my skin for grafting — and the daily changing of dressings.” (Bandages are removed with saline solution, a procedure so painful that an anesthetic is often needed.)

“There are so many little things that all burn patients can relate to,” social worker Schmeer says. “For example, a high-calorie/high-protein diet is needed to help burns heal, but patients usually don’t feel much like eating. Recovered burn patients can help by sharing their experiences on a one-to-one basis. Eventually, they develop a rapport and can even joke about their physical problems, so things don’t seem quite as bad.”

The loss of tissue and fluids resulting from second- and third-degree burns depletes the body of needed nutrients. Because healing increases energy requirements, a high-calorie, high-protein diet is prescribed. Some patients may need as many as 5,000 to 6,000 calories per day. Thus, burn patients incur a double indemnity: they don’t feel like eating, yet they need more nourishment than ever.

“They kept a close tally on everything I ate,” Shillito remembers. “Whatever I’d order on my meal card, they’d bring me double. And if I didn’t eat it all, they just about forced it in me.”

Stern had similar experiences: “If I ever look at a milkshake again, I think I’ll get sick,” she comments. “Although my experience was painful and traumatic, the care at Barnes Hospital is wonderful. Dr. Monafo is one of the most special people God ever created. If you’re going to get well, you’ll get well there.”

“When I was in the hospital, I hated everything,” Stern continues. “They tried to make me as independent as possible. I was bandaged all over — even my hands — and they told me to feed myself. That was difficult. But the day I left the hospital, I cried. I didn’t want to leave. There are so many emotions involved.”

“Sara Schmeer is magnificent; she listens to me,” Stern confides. “I’d tell her what I think, and she’d say, ‘It’s OK, Norma, to have those feelings.’ She was telling me I’m not different.”

“Some of the guys in the group call me Mrs. Motivation because I’m so enthusiastic about what we do,” Stern says. “This group has influenced my life; it’s the most important thing in the world to me.”

Mary Bagley is a St. Louis-area freelance writer.
In April 1970, students at Willis Intermediate School in Delaware, Ohio, celebrated Earth Day by cleaning the school yard. Some students raked leaves, others swept blackbird and pigeon droppings from an area near the intake for the school’s ventilation system. Two weeks later, 383 students and faculty were in the throes of an acute, flu-like illness with fever, malaise, dry hacking cough, nausea, aching muscles and weight loss. However, all recovered spontaneously, though a 35-year-old female teacher was hospitalized.

The school epidemic was the mildest, commonest form of acute pulmonary histoplasmosis. Its flu-like symptoms are the extent of most people’s experience with the disease. But one in every 2,000 persons in the endemic area suffers vision damage from a syndrome attributed to the ocular form of histoplasmosis. The second leading cause of blindness in the midwest, ocular histoplasmosis is believed to result from scars that form in the eye during initial infection. When the scars become active years later, their growing blood vessels leak fluid and blood, which obscure the central part of the retina. About 15 percent of patients with this syndrome lose their central vision. For the rest of their lives, they see heads without faces and television sets without screens.

A more immediate complication is disseminated histoplasmosis, which may damage any organ of the body. This potentially life-threatening form develops in less than one percent of infected persons — its victims usually have impaired immune systems or are overwhelmed by the sheer numbers of spores they inhale.

Not a trendy disease found in gyms or gay bars, histoplasmosis (Darling’s disease) lurks in soil, especially soil enriched by bird or bat droppings. And it is endemic to the warm, moist Mississippi and Ohio River valleys — the area surrounded by the Great Lakes, the Appalachians, the Gulf Coast and the Rockies. Thus it afflicts midwesterners who grub around in dirt: the weekend gardener, the farmer, the spelunker. An estimated 500,000 persons per year contract the disease, and over 80 percent of the adult population in the endemic area appear to have been infected with Histoplasma capsulatum. Thus, histoplasmosis probably affects more people than any other infectious disease except influenza, and it accounts for more hospitalizations than any other fungal infection. In 1976, over 2,000 persons were hospitalized for the disease, and five percent of them died.

William Goldman, Ph.D., has isolated several strains of Histoplasma capsulatum. Using strains of the fungus that vary in their ability to cause disease, Goldman tries to pinpoint differences in the ways they interact with macrophages — important components of the immunological response.
George Kobayashi, Ph.D., was an early member of the Medical Mycology Center. A mycologist, Kobayashi became convinced that the high incidence of histoplasmosis in the St. Louis area warranted an intensive research effort. His research team's efforts are aimed at discovering how the fungus adapts to the human body. Histio cells make the transition by changing from a tangled mass of filaments to individual yeast cells.

Medical Mycology Center

Researchers at the Medical Mycology Center are working to improve the outlook of histoplasmosis victims, both by testing new drugs and by learning more about the fungus that causes the disease. Gerald Medoff, M.D., professor of medicine, has orchestrated these activities since he arrived at the medical center fifteen years ago to head the division of infectious diseases. Coming from Boston, he was surprised to find so many severe cases of histoplasmosis in Barnes and Jewish hospitals (which admit a histoplasmosis patient about every month), and he decided to investigate the disease. He also met George Kobayashi, Ph.D., who is now professor of medicine and microbiology and immunology and associate director of Barnes Diagnostic Laboratory. Kobayashi, a mycologist, was already working with the fungus, but he and Medoff decided that the organism warranted a much larger study employing the latest techniques in biochemistry, genetics, and molecular biology. Since then, Medoff has gathered dozens of faculty members, postdoctoral fellows, graduate students, and technicians to create the Medical Mycology Center. "It's one of the major centers for research in medical mycology in the world," says John Rippon, Ph.D., professor of medicine at the University of Chicago and author of the text Medical Mycology. "It has made significant contributions in several areas. One is in the therapy of systemic mycoses — at Washington U., the combination therapies commonly used for several of the serious fungal infections were developed.

"Another is in fundamental biology," continues Rippon. "Medoff and Kobayashi's group is doing some very basic research with applications to all kinds of other fields such as cancer research."

Changing Faces

Kobayashi and colleagues are trying to discover how a fungus that grows for most of its life in fresh air and bird manure can suddenly adapt to the interior of the human body, where the environment is more different from soil than the Sahara is from the Antarctic. The fungus adapts by changing form: In soil, it is a tangled mass of filaments. But in its new habitat — the human body — the fungus grows as individual yeast cells (see page 21). In adapting to the changes in temperature, pH, and availability of oxygen and nutrients in its new environment, the fungus alters not only its appearance but also its physiology.

Fortunately, mycologists have been able to research this biological about-face: By adding cysteine to the culture medium and raising the temperature, scientists can prompt the fungus to grow as a yeast. Using cultures, Bruno Maresca, Ph.D., former postdoctoral fellow in microbiology and immunology, now at the International Institute of Genetics and Biophysics in Naples, discovered that the fungus adopts its new form in three dis-
tin c t s tages. During the one- to two-day Stage 1, most biological systems shut down: Respiration ceases, and RNA and protein synthesis decline. The fungus "rests" during Stage 2, when it lies dormant for four to six days. The yeast emerges during Stage 3, when cells resume normal physiological activities.

When Marguerita Sacco, Ph.D., was a postdoctoral fellow in the Department of Microbiology and Immunology, she made an important discovery about a basic physiological activity of the fungus. Sacco, now at the Institut Pasteur in Paris, found that an upward shift in temperature prevents electron flow along the fungus's electron transport chain (the bucket brigade of molecules that transfers electrons from organic substrates to oxygen). This disrupted electron flow prevents synthesis of ATP, the energy currency of cells.

As a result, during Stage 1 (when cell activities start to slow) there is a rapid fall in the intracellular concentration of ATP — this compound is undetectable after five minutes. Without ATP, the energy consuming processes of RNA and protein synthesis come to a halt. The cessation of protein synthesis in turn brings an end to respiration because the protein components of the electron transport chain must be renewed constantly for the chain to operate. In short, an upward shift in temperature sets off a series of events that renders the fungus nonfunctional. And it sets the stage for the appearance of the yeast.

Renewal of function, or the transition from Stage 2 to Stage 3, occurs only if the fungus has access to a sulfhydryl compound such as cysteine, which is plentiful in the body but not in the soil. Maresca showed that cysteine awakens each dormant cell by reactivating its electron transport chain. And Sacco's experiments suggest that cysteine allows electrons to shunt around a nonfunctional part of the chain, enabling them to flow once more from organic substrates to oxygen.

As soon as respiration resumes, *H. capsulatum* begins to enter the yeast phase. But not surprisingly, the emerging yeast cells differ from those of the mycelium. Researchers have detected differences in the RNA polymerases and cytochromes of the two phases, and have discovered that the yeast phase contains an enzyme (which is absent from the mycelial phase) that oxidizes cysteine, maintaining the yeast phase.

**Survival**

But understanding the fungus's surface is only one piece of the puzzle. The yeast's ability to survive inside nonactivated macrophages is also a mystery. Normally, when a microbe enters a macrophage, it contacts a death trap called a lysosome. How, then, do histiocyte yeast cells escape destruction?

About 18 months ago, William Goldman, Ph.D., began to tackle the puzzle by comparing how macrophages interact with strains of *H. capsulatum* that vary in their ability to cause disease. First, however, he had to isolate the strains. "The strains which cause disease clump rather vigorously," says Goldman, assistant professor of microbiology and immunology.

"But when I began growing the fungus in liquid cultures, I noticed that there was always a small population of 'floaters' — cells that did not grow in clumps." Goldman repeatedly subcultured the floating cells and plated out samples. Two types of colonies appeared on the agar plates: rough colonies, which were identical to the original, disease-causing strain; and smooth, glossy colonies of mutant cells. The mutant did not cause disease...
Russell Little, M.D. (left), and Sidney Stein, D.D.S., also are unable to produce histo-fighting substances. These differences in host resistance to histo could have significant clinical applications. Goldman is using both strains to develop an in vitro model of the interactions between the yeast phase of *H. capsulatum* and host cells. And already he has uncovered an important difference between the two fungal strains. Even though the two normally grow at the same rate, the harmless strains take twice as long to kill all the macrophages in a culture vessel.

Graduate student Kurt Klimpel is looking for biochemical differences between the strains. Much to his surprise, he has found that the two have identical proteins in their cell walls, plasma membranes, cytoplasm and nuclei. The difference appears to lie in a peptide (a short chain of amino acids) that the fungus excretes into culture medium. The peptide made by the disease-causing strain is larger than that of the nonvirulent mutant. Now, Klimpel and Goldman hope to characterize the two peptides and to discover if either is involved in the fungal-macrophage interaction.

**Host Response**

Goldman wants to know how strains of *H. capsulatum* differ in their ability to cause disease. But J. Russell Little, M.D., professor of medicine, has a narrower focus. Little investigates how a certain strain can produce a fatal illness in one case but only a mild infection in another.

He discovered that mice differ greatly in their susceptibility to the disease. “We infer that a similar situation occurs in man,” says Little. “People, like mice, may have genetically determined susceptibility or resistance to the fungus.”

Little, a staff physician at Jewish and Barnes hospitals, has found that a mouse’s ability to resist the disease is reflected by the interaction of its macrophages with the fungus. He cultured macrophages from strains of mice that varied in resistance and then introduced *H. capsulatum*
into the cultures. As he suspected, the fungus flourished in the macrophages from mice that were susceptible to histoplasmosis, but grew poorly in the macrophages of resistant mice.

In the course of these studies, Little found something completely unexpected: Many different organisms stimulate macrophage lysosomes to produce superoxide (a substance which is toxic to invaders), but \textit{H. capsulatum} does not. Thus, this fungus has a much greater chance of survival than pathogens that provoke superoxide production. Now, Little would like to know how \textit{H. capsulatum} prevents the production of superoxide and whether the fungus has any other inhibitory effects on lysosomes. Understanding this may lead to more effective clinical treatment for the disease.

As researchers at the Medical Mycology Center continue their work with this fungus, they cope with a slow-growing, difficult-to-manage experimental organism. But because these factors have deterred many microbiologists, medical mycology is still a challenging area of investigation. "The most exciting part of this work is how little we know," says Goldman. "There's so much to be done, it could keep us busy for our entire careers."

The author wishes to thank Donald Krogstad, M.D., Dept. of Microbiology and Immunology, Washington University School of Medicine, and Donald Graham, M.D., Chief of Infectious Diseases, Springfield Clinic, Springfield, Illinois, for some of the information used in this article.

In addition to the researchers mentioned in this article, senior members of the Medical Mycology Center are: Janina Bajersburg, Ph.D., research assistant professor of medicine; Alan Lambowitz, Ph.D., professor of biochemistry; St. Louis University School of Medicine; Judith Medoff, Ph.D., associate professor of biology, St. Louis University; and David Schlessinger, Ph.D., professor of microbiology and immunology.

Linda Sage, Ph.D. (biochemistry), is a freelance writer.
Jennifer Coles continually finds her expectations challenged, in both her professional work and her personal life.

When Coles was finishing her last year as a student at the School of Medicine, she completed a research project that started, as she recalls, by chance: "We weren't looking for this, but we found that a group of healthy babies had elevated levels of beta-2-microglobulin (B2M) in their urine. This meant that these babies' kidney tubules were not functioning properly. Normally the tubules return proteins like this back to the blood — they don't appear in the urine," she explains.

Coles' work leading to the discovery of this anomaly received an award at the National Student Research Forum sponsored by the American Society of Pediatric Nephrology. And when she graduated in the spring of 1984, Coles also received the Richard Brookings Award for Excellence in Clinical Research. But Coles feels that this discovery has opened up a whole panorama of questions begging to be answered.

"We assume that this phenomenon is temporary, that these babies have kidney tubules that quickly recover their ability to retain proteins in the blood, rather than spilling them over into the urine. After all, they are healthy," she says with a smile. "But we don't know exactly when this recovery of normal function occurs."

And another aspect to her discovery is also puzzling. About half the babies with elevated urinary B2M levels also were born with meconium stained amniotic fluid, which some clinicians associate with fetal distress. And all the babies with protein spillage in their urine had low Apgar scores at birth, which is a universal indicator of fetal distress that includes oxygen deprivation. Coles says that insufficient oxygen reaching the fetus may be responsible for all these observed phenomena, but their interrelationships are still quite unclear. Why did only some of the meconium-stained babies, and not others, exhibit this anomaly? And how did their kidney tubules recover their function so soon after birth, enabling these healthy babies to stay healthy?

Answers to some of these questions may come from work now being conducted by Coles' former colleague, Ron Portman, FHS. Portman, who was at Children's Hospital, is currently on staff at Fitzsimmons Medical Center in Colorado. He is doing a longer follow-up on these meconium-stained, high B2M babies to find exactly when reversibility occurs. He also monitors labor and delivery to correlate the timing of fetal distress during birth with the incidence of postnatal complications.

As for Coles, her professional interests have to take a backseat to some unexpected developments in her personal life. This 25-year-old mother of a toddler recently gave birth herself — to Rusty, a boy with Down's syndrome. She and her attorney husband have had to completely rethink and replan their futures, keeping their family uppermost in their minds.

"The medical school was great to let me take time off for my research project," says Coles, "And I know that the medical center hospitals where I'll be interning — Children's and Jewish — will be just as flexible and helpful. This is a great place to be."

**Jennifer Coles, M.D. '84. Before receiving her degree, Coles conducted award-winning research in pediatric nephrology.**
American physicians are entering a period of conflict in medical practice that will test the mettle of their professional authority against the American corporate structure.

Changes in health care economics that began in the 1950s are now producing the greatest transmutation of the American medical profession since the Flexner Report of 1910. At that time, the stimulus for change was to improve and establish standards for medical practice and education. Today's trends began more than three decades ago and derive from quite different societal pressures: cost and demand. Health care became a fringe benefit for the American worker in the 1950s, creating the group health insurance industry. In the 1960s, Medicare and Medicaid added to the volume of health services. At the same time, expanding medical knowledge and technology generated an increased public appreciation of the medical profession. Health care became a human right, but it also became a major component of the Gross National Product (GNP). From an expenditure of $13 billion in 1950 for health services, representing 4.6 percent of the GNP, Americans currently are spending about $1 billion a day, over 11 percent of the GNP. Health services will consume 12.5 percent of the GNP by 1990. The number of medical school graduates doubled between 1965 and 1980; by 1990, there will be an excess of 70,000 physicians in the United States.

These new elements now compound to create a new health care delivery system. Consider the combination of a $360 billion a year market for highly valued services to be delivered to enthusiastic consumers by an eager, skilled physician pool soon to be in oversupply: the perfect combination for business opportunity. To add to its attractiveness, established and proven systems can deliver the "product." During the last 15 years, the increasing number and size of prepaid health care delivery methods are strong evidence for the continuing growth and success of prepaid group practices and independent practice associations.

In these systems, physicians are no longer individual entrepreneurs but receive salaries or predetermined fees from the corporate entity which acquires their patients for them. Therefore, those who own or manage the patient distribution system control to no small extent those who deliver health care and how they receive their reimbursement. Whether that is good or bad for the patient remains to be seen.

To date, there appears to be little or no difference in the quality of care provided between the prepaid and the fee-for-service sector. Achieving the best possible quality of care in tomorrow's world depends on the degree to which physicians can retain their authority as physicians. That will depend on the extent to which the corporation, directly or indirectly, intentionally or not, interferes with patient services delivered by the physicians. Thus, the question: How effectively will physicians be able to maintain their authority in the corporate structure?

There is more than one kind of authority held by the American physician, some of which concerns the patient's health and some which does not.

 Regulation has been introduced through third party payors and prospective payment. How much these changes will affect the patient can — and will — be argued. What remains is the unarguable authority among physicians to define and establish the role of physician.

That authority has been described as Aesopian Authority by Humphry Osmond, M.R.C.P., in "God and the Doctor," an article he wrote for the New England Journal of Medicine (302, 10: 555-8, 1980). Named for Aesclepius (the Greek god of healing), it has roots in three authoritarian qualities: sapiential, moral and charismatic. Sapiential authority arises from the possession of a special body of knowledge which only physicians have. Moral authority originates from society's view that the physician is someone who acts always for the benefit of the patient. Charismatic authority stems from the concept that physicians have a special, near-spiritual importance based on the awesome nature of the enterprise in which they are engaged — the prolongation of life, the confrontation with death.

These three components produce a formidable power conferred only on physicians. That authority empowers them to diagnose illness and to decide medical treatment. Inherent in Aescopian Authority is the obligation of the physician to do what is right and best for the patient.

The growing dominance of corporate medicine, which will control the health care economy and the delivery of medical services, may force us to tolerate changes which we physicians will find foreign to our professional standards. However, our essential role, expressed in Aescopian Authority, is one which we should treasure and protect as the singular and absolute right of the physician. With it comes the singular and absolute obligation to the patient.

Lawrence I. Kahn, M.D.
Professor of Pediatrics and of Preventive Medicine and Public Health (Health Care Research)
Medical Director, Medical Care Group of St. Louis
ANDERSON APPOINTED CHIEF OF SURGERY

Charles B. Anderson, M.D., has been appointed chief of the division of general surgery at the School of Medicine. The appointment was announced by Samuel A. Wells, M.D., Bixby Professor and chairman of the Department of Surgery.

Anderson is head of the renal transplant team at Barnes Hospital and a staff surgeon at Children's and Jewish hospitals. His new appointment also carries the position of chief of general surgery at Barnes Hospital.

Anderson is best known for his work in transplantation and vascular surgery. His studies on pre-surgical blood transfusions in kidney recipients — a process by which the renal transplant candidate receives blood transfusions from the donor before the transplant operation — have received international recognition. The blood transfusions significantly decrease chances of rejection by the kidney recipient. That research is supported by a $600,000 grant from the National Institutes of Health (NIH) and a $60,000 grant from the Missouri Kidney Program.

He has evaluated and helped develop a variety of other techniques to prevent kidney rejection, including the use of radiation and chemotherapy. Anderson has participated in several research projects that have helped to define the mechanisms of tissue rejection, especially the role of antibodies and other products of white blood cells. Another NIH grant supports his studies of prostaglandin metabolism in preserved and transplanted kidneys.

Anderson's work has also advanced understanding of the relationship between kidney failure and malfunction of the parathyroid gland. Patients with renal failure commonly experience problems with the parathyroid, which controls calcium balance in the body.

This year, Anderson was one of the 400 surgeons selected as the first in the United States to be certified in vascular surgery by the American Board of Surgery.

Anderson joined the faculty of the School of Medicine in 1970 as an instructor in surgery, and became professor in 1979. He received the bachelor of arts degree with honors from the Johns Hopkins University, and is a 1962 graduate of Yale University School of Medicine. He interned and served his residency in surgery at Barnes Hospital.

His professional memberships include the American Association for the Advancement of Science, American College of Surgeons, American Surgical Association, Society of Clinical Surgery, Society of University Surgeons, Society for Vascular Surgery and Transplantation Society. Anderson has published more than 125 articles on his research in vascular surgery and kidney transplantation.

NEW STUDY ON MS

Researchers at the School of Medicine will monitor patients with multiple sclerosis who participate in a study of hyperbaric oxygen as treatment for the disease. Hyperbaric oxygen is most commonly used to treat cancer patients who have radiation injury, and victims of carbon monoxide poisoning. Preliminary data suggests that it also improves plaques and symptoms of MS patients.

The research is directed by John D. Davidson, M.D., assistant professor of medicine at Washington University School of Medicine and director of the division of hyperbaric medicine at St. Luke's Hospitals.

The Washington University study is being conducted under a $50,000 initial grant from the Edward Mallinkrodt Jr. Foundation, and will use the double blind technique to avoid investigator bias. According to Davidson, this will be the first attempt to use an objective visual...
technique to measure the effectiveness of hyperbaric oxygen in treating MS. It also will be the first research project to combine hyperbaric oxygen and magnetic resonance imaging (MRI), a radiation-free method of producing images of the body.

MRI scans will be used at the beginning, middle and end of the study to assess the extent of plaques damaging the nervous system of MS patients. Participants in the study will receive 20 hyperbaric treatments, five days a week for four weeks. For the treatment, patients will be placed in a hyperbaric oxygen chamber and bathed in 100 percent oxygen at two atmospheres, Davidson explained. There is no radiation, no pain and no risk involved for the patient, he added. Patients taking part in the study will receive MRI scans and hyperbaric treatments at no charge.

The MRI work will be conducted by Mokhtar Gado, M.D., professor of radiology and of neurology and neurological surgery, and hyperbaric treatments will be supervised by John A. Davidson, M.D. Gado is on staff at Barnes and Children's hospitals, and Davidson is co-director of hyperbaric medicine at St. Luke's Hospitals.

John D. Davidson, who is also on staff at Barnes Hospital, is conducting hyperbaric oxygen research — though without the use of MRI scans — through the University of Wisconsin.


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**HARTL NAMED GENETICS HEAD**

Daniel L. Hartl, Ph.D., has been named James S. McDonnell Professor and head of the Department of Genetics.

Announcement of the appointment was made by William H. Danforth, M.D., chancellor of Washington University. Hartl replaces Donald Schreffler, Ph.D., who has asked to be relieved of his administrative duties in order to concentrate on his research and writing.

The McDonnell Professorship in genetics was established in 1975 through gifts from James S. McDonnell and the McDonnell Foundation. McDonnell, who had a lifelong interest in genetics, also provided funds to establish the Department of Genetics at Washington University.

Hartl joined the medical school's faculty in 1981 as a professor of genetics. His research concentrates on how genes can transfer from one species to another and how much change occurs with these genes when a new species is formed.

He came to Washington University from Purdue University in West Lafayette, Ind., where he served as associate professor and professor of biological sciences. During his seven years at Purdue, he spent a year as a visiting professor at the University of Zurich in Switzerland. Hartl also has been a faculty member at the University of Minnesota in Minneapolis.

He served as a National Institutes of Health postdoctoral trainee at the University of California-Berkeley, and as a National Aeronautics and Space Administration postdoctoral trainee at the University of Wisconsin-Madison.

Hartl received the bachelor of science degree in zoology in 1965, and a doctorate in genetics in 1968, from the University of Wisconsin-Madison. He was the recipient of a National Institutes of Health Research Career Development Award from 1974-79, and the Samuel Weiner Award Medal from the University of Wisconsin-Wausau in 1963.

Hartl is a member of the board of directors of the Genetics Society of America, and is on a National Institutes of General Medical Sciences committee that reviews grants related to the genetic basis of disease.

He serves on the editorial committee of the *Annual Review of Genetics* and is associate editor of *Molecular Biology and Evolution*, and *Genetics*. He has written six books and more than 60 research articles on genetics, and is author or co-author of 12 book chapters.
WORK CONTINUES AT LIPID RESEARCH CENTER

Follow-up studies continue at the Lipid Research Center, which spent 10 years as part of an unprecedented national study that proved lowered blood cholesterol levels can reduce the risk of heart disease. The St. Louis center, along with 11 other research centers, in January released results of the Coronary Primary Prevention Trial, sponsored by the National Institutes of Health (NIH).

Researchers at the School of Medicine are using the findings of that 10-year project as the foundation for further studies of the relationship between cholesterol and heart disease. The work will be directed, as before, by Gustav Schonfeld, M.D., director of the Lipid Research Center and acting head of the Department of Preventive Medicine and Public Health, and by Anne Carol Goldberg, M.D., instructor in preventive medicine and medicine.

The center is now screening volunteers for the studies, which will last five months. Participants will receive complete physicals, including lab tests, free of charge and will follow a set diet.

Among the projects is a diet study funded under a three-year, $110,000 grant from the NIH. According to Schonfeld, an inherited protein defect that affects 25 percent of Americans is believed to make them more susceptible to cholesterol and, thus, at a higher risk of cardiovascular disease.

This will be the first study of its kind to examine the effect of diet on cholesterol levels in people with that trait. Researchers will screen volunteers aged 21–60 to select those who have the trait, as well as a group of controls who do not have the defective protein.

Two other studies will test new cholesterol-lowering drugs, one in liquid form and the other in capsule form. Researchers will use volunteers aged 21–70 to test for optimum dosage and long-term tolerance.

More information about any of the cholesterol studies is available from 1–4 p.m. weekdays at the Lipid Research Center (314-362-3500).

STOP-SMOKING CLINICS AT JEWISH HOSPITAL

Two programs to help people stop smoking have begun at Jewish Hospital. The programs, an outpatient clinic and a consult service for inpatients, combine behavior modification and nicotine gum. Smokers and their referring physicians may choose at any time to start using nicotine gum to combat the withdrawal symptoms of nicotine addiction.

The programs are directed by Linda Stanton, M.D., clinical instructor of medicine at Washington University School of Medicine, and director of the medicine clinics and of employee health at Jewish Hospital. She also was a principal investigator in the clinical trial of nicotine chewing gum conducted last year at Jewish Hospital.

The Nicotine Withdrawal Clinic for Smoking Cessation is open to all smokers. Physicians may refer their patients to the program, but smokers without physician referral can receive medical examinations from clinic physicians. The program lasts four months, and includes eight one-hour visits for small group sessions. The outpatient clinic meets Saturdays and evenings.

Fee for the outpatient clinic is $120, and $30 for physician examination. Prescriptions for nicotine gum are provided as part of the program, but cost of the gum is extra.

The consult service for Jewish Hospital inpatients is by physician request. Stanton and nurse educators will introduce patients to the concepts of smoking cessation, evaluate them as candidates for nicotine gum and make recommendations to their referring physicians, start them on the nicotine gum plan, and provide follow-up planning to continue the smoking cessation program after discharge.

More information about the stop-smoking clinics is available through the Jewish Hospital smoking cessation program (telephone 314-454-8188).
CENTER OFFERS INFORMATION ON PARKINSON'S DISEASE

The School of Medicine has opened the first information center in the area for Parkinson's Disease patients and their families.

The Department of Neurology created the Parkinson's Disease Information and Referral Service to help the more than 5,000 patients in greater St. Louis. The center provides medical and community referrals, educational materials, seminars and a newsletter. It also operates a Hotline, (314) 362-3299, to answer questions about Parkinson's Disease.

The center was created through a grant from the New York-based American Parkinson Disease Association. Medical advisor is Erwin B. Montgomery Jr., M.D., assistant professor of neurology at the School of Medicine and a staff physician at Barnes and Jewish hospitals.

Coordinator is Susan Levin, who has been chairman of the Jewish Hospital auxiliary's Parkinson's Educational Program (PEP) since it began three years ago. With 1,000 members, the local group is the largest chapter of PEP in the world. Levin is also director of the St. Louis chapter of the American Parkinson Disease Association, which seeks to raise funds to support education and research locally and nationally.

Parkinson's Disease is a slowly progressive neurological disorder characterized by tremor, stiffness of the muscles and slowness of movement. There is no known cause for the disease, which is named after London physician James Parkinson, who in 1817 was the first to describe it. An illness of the middle and advanced years of life, Parkinson's Disease affects more than two million people — about one out of every 100 people over age 50.

Though there are very effective medications, none is totally satisfactory. To date, the most promising medical treatment is L-Dopa, a drug that alleviates many of the disabling problems associated with the disease. L-Dopa is converted in the brain to produce dopamine, a neurotransmitter that is deficient in Parkinson's patients. However, medications used for Parkinson's only treat symptoms; they cannot stop progression of the disease.

At the School of Medicine, the Department of Neurology's Movement Disorder Clinic is conducting basic and clinical research on Parkinson's. Scientists at the clinic plan to begin studies soon on a new drug that may be used as a treatment for the disease.

FURTHERMORE

The School of Dental Medicine has become a sponsoring institution of the Washington University Medical Center. The announcement was made by Samuel B. Guze, M.D., president of the medical center, at the annual meeting of the center's board of directors Sept. 18.

The School of Dental Medicine has been part of Washington University since 1892, when it became the university's dental department. George D. Selfridge, D.D.S., M.S., serves as dean of the school.

The board of directors also announced that sponsoring institutions of the medical center provided more than $79 million in unreimbursed medical care during the 1983 fiscal year.
not yet available for widespread clinical use, may one day lead to a cure or to effective therapy for EB patients.

In addition to providing support to the Washington University EB center, the Jamie Hoke Living Trust Fund recently presented $50,000 to Children's Hospital of Philadelphia to create its Pediatric Center for Genetic Diseases, which also will be devoted to EB treatment and research.

More information is available through the EB center at Box 8123, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis, Mo. 63110 (314-362-2643).

The Program in Physical Therapy has new facilities that were dedicated this fall. Ceremonies were held Friday, Sept. 14, to dedicate the Beatrice F. Schulz Library in the physical therapy program, directed by associate professor Steven J. Rose, Ph.D., PT.

The library is named for Beatrice F. Schulz, associate professor emeritus, who served from 1941–77 as the first director of the Program in Physical Therapy. The classroom is dedicated in honor of Robert J. Hickok, chief facilities officer and assistant dean at the School of Medicine, and for almost 30 years a part-time faculty member of the Programs in Physical Therapy and Health Administration.

Approximately 100 undergraduate and 75 graduate students are currently enrolled in the physical therapy program, directed by associate professor Steven J. Rose, Ph.D., PT.

Melvin M. Figley, M.D., nationally recognized radiologist and editor of the American Journal of Roentgenology, delivered the 13th annual Wendell G. Scott Memorial Lecture at the Mallinckrodt Institute of Radiology at the School of Medicine. Figley spoke on the future of scientific and medical communications.

In addition to holding the editorship of this journal since 1976, Figley has an appointment at the University of Washington in Seattle. His association with that institution began in 1958, when he was appointed professor and chairman of the Department of Radiology, and radiologist-in-chief at the University Hospital. Retiring from these positions in 1978, he has continued to serve the university as professor in two departments, medicine and radiology.

The Scott Lectureship was established by friends and colleagues of Scott as a tribute to his loyalty and excellence at the Mallinckrodt Institute. A 1932 graduate of the School of Medicine, Scott served his residency at the institute and was professor of clinical radiology here at the time of his death in 1972.

Occupational therapists at the School of Medicine are conducting studies to improve services for learning disabled children.

Researchers in the occupational therapy program are seeking normal and learning disabled children between the ages of 5–7 and 10–12 for evaluation. The project will help learning disabled children by pinpointing their coordination problems, which will help determine appropriate services to which they can be referred, said Cindy Bonkowski, principal investigator. Bonkowski is a clinical instructor in occupational therapy at the School of Medicine.

The study, funded by the American Occupational Therapy Foundation, involves two test sessions. There is a one-hour screening session to observe the child’s sensory and motor abilities.

Parents interested in volunteering their children for the tests may contact Bonkowski or Angie Moore at the School of Medicine’s Irene Walter Johnson Rehabilitation Institute (telephone 314-362-2370).

The Irene Walter Johnson Rehabilitation Institute has opened a satellite facility at West Port Plaza. The facility, located next to the Medical Care Group, recently received accreditation as a Comprehensive Outpatient Rehabilitation Facility.

The IWJ satellite provides occupational, physical and speech therapy, as well as social work services, to patients in St. Louis County. Occupational therapists increase potential for independent living by restoring function in home activities and work-related tasks. Physical therapists treat joint and muscle problems stemming from common sprains or more serious illnesses, such as arthritis and stroke. Speech therapists at the facility treat voice or language problems ranging from stuttering to speech loss caused by stroke.

The facility has three treatment rooms, a gym, and a conference and reception area.

Robert Hickok (left), Beatrice Schulz and Steven Rose, Ph.D. Schulz and Hickok were honored recently during ceremonies dedicating the physical therapy program’s new facilities, located in the renovated East Building.
The Great Depression was tightening its grip on America in 1930 when young Paul O. Hagemann, college diploma in hand, entered Washington University School of Medicine. His choice of both profession and alma mater was a natural one—a family affair, so to speak. He and his brother had both done their undergraduate work at Washington University (his brother first with a degree in Business Administration in 1926, then Paul with an A.B. in 1930). And a generation earlier, his father had graduated from the School of Dentistry.

Still, in those lean days of a half-century ago, it wasn't a decision to be made easily by any young aspiring physician without taking a good hard look at the family budget. Paul Hagemann's total tuition for medical school was $2,000, which his father paid. But in 1930, that amount was more than most people earned for 12 months' hard labor.

Today, Hagemann stands on a threshold of time. Looking back at his own medical education, he also looks ahead. And having looked both ways, he is doing something about the problems he sees: the constantly escalating costs of maintaining a world-renowned medical school, and the increased financial burden faced by its students.

Chairman of the School of Medicine Committee on Planned Gifts, Hagemann encourages his fellow alumni to contribute to their alma mater, not only as a gesture of gratitude but also as a sound investment.

"We want to inform alumni how gifts of money or stocks can result in reduction of estate taxes and often can create for the donor a greater income on that amount than was formerly realized," Hagemann says. "It's a way individuals can meet their own philanthropic goals and create a benefit for themselves."

But Hagemann, associate clinical professor emeritus of medicine, is also thinking of the benefits of such planned giving for the school and its students. Today, he points out, students pay in tuition five times as much in a single year as he paid for all four years, and it is the rare student who does not need some financial assistance. In addition, good research is costly. Some donors endow professorships, thus allowing funds earmarked for salaries to be channeled instead toward student assistance. "Without such help," Hagemann notes, "tuition would be twice as high."

Hagemann is proud of the fact that the Planned Giving Committee has spearheaded gift programs by reunion classes, with particular emphasis on the 50-year reunions. Putting their practicing into practice, he said, his own class of 1934 was the first committee target, and more than $200,000 was donated by that group—70 percent through planned giving programs.

Additional gifts obtained by the committee in its first year include a substantial donation from a patient—not an alumnus—and contributions by other St. Louisans outside the medical school family. "We endeavor to make physicians aware of their influence on patients," says Hagemann. "A grateful patient will often look to his or her doctor for counsel on expressions of gratitude."

Hagemann's 13-member committee has worked closely with Jack Siefkas, director of Medical Alumni and Development Programs; Jean Quinlan, director of Special Funding Programs for the School of Medicine; and Mark Roock, Associate Director of Planned Giving for the university. He cites examples of financially advantageous methods of giving: outright gifts; marketable securities; real estate; and life insurance.

"Many have provided for gifts through their wills," he said. "These bequests are an important source of income for the School and a source of satisfaction for donors."

"The University's Planned Giving staff provides technical expertise about the mechanics of a gift and the most advantageous methods for a particular donor's situation and objectives," says Ms. Quinlan. "They work in cooperation with a donor's financial and legal advisors, and always in a confidential manner."

Although Hagemann is as enthusiastic about his extra-curricular assignment as he was when he helped put himself through school as a camp counselor, there is no hint of hard sell in his quiet approach. "This isn't a matter of hammering away full time," he said. "Rather, it's encouraging alumni to create opportunities to talk to people about planned giving."

An emeritus faculty member, he has reduced his working hours, but gives back much of that time to the Planned Giving staff and committee: Drs. Eugene Bricker, Harold Cutler, Robert Elliott, Thomas B. Ferguson, Jerome Flance, Neville Grant, Stanley Hampton, Michael Karl, Jay L. Liss, Austin Montgomery, Ernest T. Rouse and Alan N. Weiss.

Hagemann began his medical career as an intern at New York Hospital. Returning to St. Louis in 1937 as a resident in medicine at Barnes, he was appointed instructor at the School of Medicine. Later he was director of the Barnes Hospital Laboratories. In gratitude for his long, distinguished career here, the University honored Hagemann with a Founders Day award in 1983 and a Medical Alumni Association Award in 1984.

A member of many scientific and medical organizations, he is the author of numerous research articles. He has served as Governor for Missouri of the American College of Physicians and on the Board of Governors' Executive Committee. For 10 years, he served as chief of medicine at St. Luke's Hospital.

An Eagle Scout in boyhood, he learned early to love the outdoors. He still spends as much time as he can spare on his hobbies, hunting and fishing, and enthusiastically recommends the outdoor life as a good way to ease tensions.

But, for the time being, Hagemann is directing that penchant for hunting and fishing at other targets—donors and dollars for his alma mater.

—Mary Kimbrough is a St. Louis-based freelance writer
Jeannie Kinzie grew up in the center of Montana, poised between two vistas. The eastern half of the state is flat prairie land; the western has glorious waterfalls, peaks and glaciers. Great Falls, her hometown, is on the edge of the prairie, but out any window you can see the Rockies in the distance.

Since childhood, Kinzie has lived in the valley and looked toward the mountains. As a teenager, she first had the vision of becoming a medical missionary; that dream has taken her to cancer patients in the inner-city hospitals of Milwaukee, Chicago and now Detroit. Although she works daily with the seriously ill and dying, she is known to patients and colleagues alike as an incurable optimist, buoyed always by her strong religious faith.

At 44, this 1965 Washington University School of Medicine graduate is gaining widespread recognition in her field: "Jeannie Kinzie is among the very best radiation therapists in the country," says Ronald G. Evens, M.D., Elizabeth Mallinckrodt professor and head of the Department of Radiology at the School of Medicine. "She is nationally known as a clinician and clinical researcher. Just as importantly, she is acting as role model for an increasing number of women in medicine. She is compassionate, scientifically excellent, hardworking and has developed a great career."

At Harper Hospital, she is vice chief of the Department of Radiation Oncology. She is president-elect of the Michigan Society of Therapeutic Radiologists. Active in clinical research, she has served on a number of national boards and committees, including the Radiation Studies Section of the National Institutes of Health. And this year, she was one of 120 radiologists named to the prestigious position of Fellow in the American College of Radiology; fewer than 10 percent of A.C.R.'s 20,000 member physicians will ever achieve this honor.

In the past, though, she has known the valley herself. In 1971, she finished a three-year residency at the Mallinckrodt Institute of Radiology and was just beginning a two-year stint as radiology instructor and assistant radiologist at Barnes Hospital. One day, on the telephone at work, she was overwhelmed by a violent headache and found herself in the Intensive Care Unit at Barnes Hospital. The diagnosis: intracranial aneurysm, which had killed her father and uncle. Faced with a choice between risky surgery and a life lived cautiously to forestall recurrence, she took the chance for a full life. Leonard Berg, M.D., clinical professor of neurology and neurosurgery, was her attending physician. Henry Schwartz, M.D., now August A. Busch Jr. Professor of Neurologic Surgery, renowned for his skills in craniocerebrovascular surgery, performed the operation. She made a complete recovery.
"The funny thing is that, in retrospect, having that stroke has never seemed like a bad thing at all," Kinzie muses. "It's a common story. You talk to cancer patients who are cured and they often say their lives got better afterwards. If you have a really close call, you learn not to worry about minutiae. It tunes you in on what's really important. And it makes you grateful to have fine doctors like Berg and Schwartz."

The experience also helps her deal with patients. "I've never been a cancer patient, so I can't say I have exactly the same emotions. But I have insight into feeling 'well, maybe this is it.'"

Her will to survive may have come from her grandparents, who gave up a farm in western Missouri to gamble on an unknown Montana homestead, which turned out to be dry, rocky, treeless and infested with rattlesnakes. Kinzie, a Montana State University graduate, became the first in her family to attend a four-year college. "Then there was the tremendous culture shock of going from small-town Montana to medical school. And the work was so hard. I sometimes wondered: 'What have I gotten myself into?'

Until her senior year, she planned to specialize in surgery. But, gradually, the work of William E. Powers, M.D., then director of the division of radiation therapy at Mallinckrodt, and of Edward H. Reinhard, M.D., now professor of medicine, began to intrigue her. A two-week elective in radiation therapy clinched her interest. Though she interned in surgery at the University of North Carolina, she came back to Mallinckrodt on an NIH grant that was one of the first to support the training of radiation therapists.

The training program was new; the equipment they used — simulators and linear accelerators — was also new. Powers was testing the first computer specifically programmed for radiation therapy. And Kinzie became one of two residents who worked with him while he developed a system of shielding blocks, made from a metallic alloy called Cerrobend, which could be custom-shaped for each patient. "Mallinckrodt was then, and still is now, a very exciting place in radiation therapy," she says.

One morning a week, she also reviewed cases and gave an occasional lecture at Homer G. Phillips Hospital in north St. Louis. There she met William Allen, M.D., a radiologist who inspired her: "He was a sort of medical missionary. He won gold medals from the American College of Radiology and other organizations; he was brilliant, hardworking and could have been out making a lot more money somewhere else. Instead, he dedicated himself to treating cancer patients in a low-income area, and he did a good job of it."

After leaving St. Louis, Kinzie herself had a series of university jobs, with clinical appointments also geared to the inner city: the Medical College of Wisconsin, the University of Chicago, and now as associate professor at Wayne State University. The Radiation Oncology Center sees 90 to 120 cancer patients a day, referrals from the hospitals comprising the Detroit Medical Center.

"In the course of my moves, I've done just about everything in radiation oncology," she says. She has gravitated toward university hospitals because she likes to be on the frontier of cancer care. Though not a charismatic teacher, she says, she's not "preachy" either; she's adopted an informal style, often sitting down with her students.

"I'm famous for my handouts," she says with a laugh. "I'll sometimes run into former students, all grown up and board-certified, and they'll say: 'You know, I really enjoyed your lecture series.' They won't say because of the beautiful slides or because I'm an articulate speaker. It's because the handout helped them."

Busy with patients and students most of the day, she "burns the midnight oil" to work at her research. She is active in several group studies, focusing on better combinations of drugs and radiation and how to time them around surgery. She's particularly interested in the problem of "multiple primaries": when smokers, cured of one form of cancer, develop a second tumor elsewhere in their throat, lungs or esophagus. Her research has shown a surprising number of second cancers, some 20 percent of patients studied, which suggests that smoking sets up a cancerous chain reaction in the body.

These patients must be watched carefully to catch the second tumor before it gets out of hand. "If you can figure out what tumors are most likely, and keep your eye on those areas, you can help these folks. If another one comes up, you can more readily cure it."

There's also the general question of what kind of follow-up is best. "A patient has been treated for breast cancer and cured. But what is the best way to follow up? When should she have other X-rays? Mammogram? Certain blood tests? Or, would other procedures be called for?"

Kinzie is also proud of her work for a national study called "Patterns of Care." Sponsored by the American College of Radiology, it statistically surveyed various institutions, comparing in detail how they treat certain diseases. She was assigned to the Hodgkin's Disease study and, as a senior researcher, traveled around the country reviewing charts and determining cure rates. The results, now published, have modified the radiation techniques used to treat the disease.

In the future, she'd like to write books that synthesize treatment programs for particular types of cancer. She'd also like to finish a book which she began last year, her "life's dream" — her own mystery novel. An Agatha Christie fan, she reads mystery novels avidly, most often on plane rides to conferences or to Boston, where her son, Daniel, is a freshman at the Massachusetts Institute of Technology.

And she'll keep on working quietly with the sick and the dying. "Many of them say to me: 'You're a believer, aren't you?' I don't work at showing it; I hope it comes across to them though, because it helps them to know that they're dealing with someone who believes that there's more. There's more to us as people; there's more to life than this."

"We're just passing through this life. This is just one of our adventures."
CLASS NOTES

20s

C.H. “Pat” Leslie, M.D. ’27, was recently honored at a special dinner hosted by the Chastain Nursing Home. Herbert S. Jones, mayor of Kirkwood, Mo., is one of over 1,000 babies Leslie has delivered. Jones proclaimed August 25, 1984, as “Dr. C.H. ‘Pat’ Leslie Day.” Leslie received a plaque in honor of his more than 20 years as chief of staff for Chastain’s. He was also presented with a white Stetson hat filled with crisp dollar bills.

Leslie received the B.A. from the University of Missouri. He interned at St. Luke’s Hospital in St. Louis and also served his residency there. He opened a general medical practice in Kirkwood in 1929 that he has operated continuously since then.

Previously, he served 10 years as mayor of Glendale, Mo. He has been involved in many volunteer activities and for 15 years cared for the children in the Lutheran Orphans Home. Currently on staff at St. Joseph’s Hospital in Kirkwood, he is a 50-year member of the AMA, the Missouri State Medical Association, and the St. Louis Metropolitan Medical Association. He is a charter member of the American Academy of Family Physicians and a 35-year member of the American Geriatric Society.

Marvin Gentry, M.D. ’45, was the subject of a recent article in the Williamsport, Pa. “Grit.” Gentry is still practicing medicine in his hometown of Ava, Mo., where he set up practice in 1929. Described as “holding the line on medical costs,” Gentry charges $3 a visit. He has delivered at least 2,500 babies in his 55-year career, he estimates. And he has never employed a nurse or receptionist.

30s

Nathan R. Kahn, M.D. ’36, practices one day a week as a pediatric neuropsychiatric consultant in a clinical facility in Belle Glade, Fla. His patients are primarily children of migrant workers in this farming and sugar-growing area on the periphery of the Everglades.

A portrait of Kahn, painted by David Levine, graced the October/November 1984 cover of American Heritage. The painting, done in 1961, portrays Kahn holding the artist’s newborn son.

Levine maintains a studio in which Kahn painted, with a group of realist artists, for over 20 years. Although Kahn no longer lives in New York (where he practiced from 1946 until 1972), he still devotes much of his time to painting. And he writes that he’s very much looking forward to seeing his classmates at their 50th reunion, to be held in 1986.

40s

Thomas K. Hood, M.D. ’45, has retired from medical practice at the Elko Clinic in Nevada. Dubbed a member of the clinic’s “magnificent trio,” Hood is a past president of the Nevada Medical Association and the Association of Railroad Surgeons. He is also a Fellow of the American College of Surgeons and recipient of a special award from the American Cancer Society. In 1983, he was named A.J. Robins Physician of the Year by the Nevada State Medical Association. Hood has also been involved in numerous philanthropic activities.

50s

Ernest Wynder, M.D. ’50, president of the American Health Foundation in New York City, has devised a proposal for an innovative school program aimed at cutting heavily into the mortality rates from cancer and heart disease. His proposal includes physical exams of children beginning in first grade, with annual follow-up exams to ascertain development of risk factors, with the expectation that they would be diminished by the instructional component of the program.

Wynder’s interest in cancer began during his student days here, when he conducted experiments for cancer treatment pioneer, Evarts A. Graham. After spending nearly 20 years at the Memorial-Sloan Kettering Cancer Center in New York, Wynder established the foundation which he now heads.

Roy E. Kenney, M.D. ’57, has been a member of the staff at Sale Hospital (Neosho, Mo.) since 1959. A Neosho native, Kenney finished internship and residency at St. Luke’s Hospital in St. Louis.

Byron J. Masterson, M.D. ’58 cum laude, was one of 16 recipients of the Outstanding Performance Award bestowed by the president of the University of Louisville. Masterson, professor and chairman of the Department of Obstetrics and Gynecology at the University of Louisville School of Medicine, received this award for his efforts on behalf of the department’s expansion, including its affiliated clinical laboratories at U. of L. Since he assumed chairmanship of the department in 1981, he has expanded the department’s surgical research efforts, established an endowed chair, and set up a computerized management system for the department. In addition, the number of research publications from the department has increased substantially, as has the number of residency applications.

Masterson has received several other awards and honors, including the Citation of Merit in medicine from the University of Missouri. His books on surgical techniques have been translated into...
foreign languages, and he has developed surgical instruments that are currently in use throughout the world.

Clifford R. Talbert, Jr., M.D. '59, has been elected a Fellow in the American College of Cardiology. Talbert is currently in private practice in Cape Girardeau, Mo. He is a graduate of the University of Missouri (Columbia).

60s

David L. McIlwain, M.D. '64, has been promoted to Professor in the Department of Physiology at the School of Medicine, University of North Carolina (Chapel Hill). McIlwain received the B.A. from Vanderbilt University.

Thomas F. Frist, Jr., M.D. '65, has been elected to the Board of Directors at IBM. Frist is co-founder of Hospital Corporation of America, which he now serves as president and chief executive officer. HCA is currently the world's largest owner/manager of hospitals and health care related companies. A native of Nashville, Frist earned the B.A. from Vanderbilt.

Max Baker, M.D. '66, is medical director at Harbor View Mercy Hospital (AR). He is also chief of psychiatry at St. Edward Mercy Medical Center and head of Baker Psychiatric Clinic at Fort Smith. He is also clinical instructor of psychiatry at the University of Arkansas.

Baker earned the B.S. from St. Louis College of Pharmacy. He completed a residency in psychiatry at Barnes Hospital and received a post-doctoral fellowship at the National Institute of Mental Health.

He is a member of the American Society of Clinical Psychiatrists and past president of the Arkansas Psychiatric Association. His professional memberships also include the American Psychiatric Association.

70s

Donald Graham, M.D. '74, chairs the Division of Infectious Diseases at the Springfield Clinic (IL). Recently, he reported the first cases of postoperative toxic shock syndrome. He has monitored an outbreak of pseudomonas infection caused by Pasteurella multocida from contaminated sheep red blood cells. Co-editor of the *Springfield Clinic Bulletin*, he is also president of the Board of Directors for the Mental Health Centers of central Illinois.

A Fellow of the American College of Physicians, Graham completed an internship in internal medicine and a residency at Jewish Hospital. Subsequently, he served a fellowship in infectious diseases at the Washington University Medical Center. For two years, he was epidemic intelligence service officer and, later, acting chief of the epidemic investigations activity (Hospital Infections Branch) at the Centers for Disease Control in Atlanta.

Michael Williams, M.D. '74, has developed a device to simultaneously fix combination hip/femoral fractures. Called the "Williams' Interlocking Y-Nail," the device is FDA-approved and permits patients to be implanted on Day 1, mobile on Day 2, and discharged from the hospital on Day 5–7.

William L. Lanzer, M.D. '77, has completed residency at the Mayo Graduate School of Medicine in adult reconstructive surgery. He has been named assistant professor of orthopedic surgery at the University of Washington in Seattle.

Lanzer received the B.A. from UCLA and completed further training at North Carolina State University in Raleigh and Rutgers Medical School.

Theresa Poindexter, M.D. '78, has joined a practice in Hanford, Calif. A native of Pasadena, Poindexter holds bachelor's degrees from Pomona College. After interning in general practice in Minneapolis, she completed residency in ophthalmology at Valley Medical Center in Fresno.

Philip Zazove, M.D. '78, has a family practice in West Jordan, Utah. Zazove, born with a hearing loss in the high frequency range, specializes in treating hearing-impaired patients.

After completing work for bachelor's and master's degrees from Northwestern University, Zazove entered Rutgers University School of Medicine. He transferred to Washington U. and finished his M.D. He and his wife completed residencies in family practice at the University of Utah.

Stephen Piercy, M.D. '79, has joined the staff of Wesley Clinic in Olney, Ill. He completed a residency in urology at St. Louis University.

Mark Secor, M.D. '79, has joined the staff at Berea Hospital (KY). Secor graduated from Johns Hopkins and completed a residency in orthopedic surgery at the University of Nebraska Medical Center (Omaha).

Jeffrey M. Wright, M.D. '79, visits the Hannibal (MO) Clinic monthly for consultation with adult allergy patients. Wright, who lives in St. Louis, is a graduate of Vanderbilt. He completed a residency at Jewish Hospital at the Washington University Medical Center.

80s

Robert M. Saitz, M.D. '81 cum laude, has opened a practice in general internal medicine in south St. Louis County. Saitz, a resident of Affton, Mo., received the B.A. summa cum laude from Washington U. He completed a residency in internal medicine at St. John's Mercy Medical Center in St. Louis and is board-eligible in internal medicine. Ellen F. Binder, M.D. '81, has been named to the staff at the Jewish Center for the
Aged in Chesterfield, Mo.

Binder was a founding member of the St. Louis Women's Clinic, where she is an active volunteer. She is also a founding member of Community Health Advocates, an organization of health professionals and students who attempt to solve community health problems through education and outreach projects. In addition, Binder is a founding member and current treasurer and executive committee member of the St. Louis chapter of Physicians for Social Responsibility (PSR). PSR is an organization of physicians committed to educating the public about the medical consequences of nuclear war.

Binder was awarded the Wurduck Fellowship for Research in 1975. She received the Muenzer Award in Psychology from the University of Michigan in 1976. Subsequently, the University of Virginia Medical School awarded her a mental health fellowship in psychiatry.

An honors graduate of the University of Michigan (Ann Arbor), Binder served an internship and residency in internal medicine at Jewish Hospital in St. Louis.

**FORMER HOUSE STAFF NOTES**

M.J. Jurkiewicz, chief of the division of plastic and reconstructive surgery at Emory University School of Medicine, has been given the 1984 Scientific Achievement Award. This award, presented periodically by the AMA, recognizes outstanding work in medicine.

Jurkiewicz was instrumental in developing many of the procedures in which muscle and skin flaps are used to reconstruct affected areas. Under his direction, Emory's division of plastic and reconstructive surgery has become widely known for work with musculocutaneous flaps for reconstructive procedures, particularly, reconstruction of the breast. The division is also known for its work in craniofacial surgery and microsurgical reattachment and reconstruction of extremities.

Jurkiewicz received the D.D.S. from the University of Maryland. After active duty as lieutenant in the U.S. Navy, he returned to Harvard. There, he earned the M.D. in 1952. He served as intern and resident in plastic surgery at Barnes Hospital, where he was also clinical fellow and later instructor in plastic surgery. He joined the Department of Surgery at the University of Florida, eventually being named professor of surgery and chief of plastic and reconstructive surgery. In 1971, Jurkiewicz joined Emory University School of Medicine and its affiliated hospitals.

Robert J. Glaser, FHS, has been awarded the 1984 Abraham Flexner Award for Distinguished Service to Medical Education. The Flexner Award, established in 1958 by the Association of American Medical Colleges (AAMC), recognizes extraordinary contributions to medical education and the profession.

Glaser is director for medical science of the Lucile P. Markey Charitable Trust, which recently awarded the School of Medicine a grant of $360,000, over a five-year period, in support of basic research fellowships in the Division of Biology and Biomedical Sciences. The School of Medicine was one of 15 institutions to share in a total of $5,400,000 to be awarded by the trust as part of its program to support pre-doctoral fellowships in basic medical research.

As first chairman of the Executive Council and of the Assembly of the AAMC in 1968-9, Glaser influenced a redirection and broadening of the AAMC's activities.

Glaser has edited *The Pharos* (journal of the AOA) for 25 years. A founding member of the Institute of Medicine (National Academy of Sciences), Glaser has also served as consultant to the NIH.

A graduate of Harvard, Glaser is a member of many distinguished scientific societies and a recipient of several honorary degrees. He was awarded the Medal for Distinguished Service from UCSF and the Centennial Award for Distinguished Service from the University of Colorado.

**IN MEMORIAM**

Laura Edmunds, M.D. '84, was struck by a car and killed last summer shortly after beginning an internship in internal medicine at the University of Michigan Medical Center at Ann Arbor. Edmunds was bicycling at the time and, according to John Herweg, M.D., associate dean of the School of Medicine, was "an avid rider. She was also a very good student," continues Herweg, "and would have made an excellent physician, very concerned and caring." According to information received by Herweg, Edmunds was comatose for several days after the accident and died on August 24.

Edmunds is survived by her parents, Paul and Jean Edmunds of Worcester. Mass., four brothers and two sisters. Memorial donations may be made to the University of Michigan Hospital, Department of Internal Medicine, Ann Arbor, Mich. 48104.

**Medical Center Alumni Association**

Box 8049
660 S. Euclid
St. Louis, MO 63110

David T. Hammond, M.D. '60
President

Jack Sieflus, Director
Medical Alumni and Development Programs

Chris Owens, Director
Medical Alumni Programs

Ruth Moenster
Secretary
Dear Editor:

I was very happy to see an article devoted to the topic of rehabilitation in the Spring 1984 edition of Outlook. I am board-certified in Physical Medicine and Rehabilitation, and as you indicated in the article, the specialty has not been very popular among medical students.

Advances in Rehabilitation Medicine have carefully enabled medical professionals to improve the quality of life of many disabled individuals. Since the elderly and disabled will comprise a greater proportion of the population in the future, rehabilitation will be an important aspect of these patients' care. I encourage students at Washington University to carefully consider Physical Medicine and Rehabilitation as a career choice.

I continue to enjoy reading Outlook and look forward to future editions.

Sincerely,
Jack P. DiMarco, M.D. '79
Department of Physical Medicine and Rehabilitation
Our Lady of Lourdes Rehabilitation Center
Camden, N.J.

Dear Editor:

Thank you, Dr. Smith. It's heartening to hear someone as well respected by medical students and colleagues as yourself speak out on the unfortunate state of premedical education, specifically, the MCAT (Medical College Admissions Test).

Yes, it is so true; we studied not to learn but to be tested. By the end of my pre-clinical studies (end of the second year of medical school), I was so conditioned to the predictable onslaught of data and details that I, too, studied to be tested rather than to learn. The atmosphere distorted the real purpose of my education. It is too common a practice in the "pre-med/preclinical syndrome" to gear one's studies towards the inevitable written (usually multiple choice) exam. We even used old tests and packaged preparatory courses such as Stanley Kaplan. Set in this mindset for six years, one becomes something of a drone. One loses a sense of reflection and synthesis with the predictable onslaught of data and details.

Such a style of medical education is detrimental to cultivating both the analytical and intuitive skills needed in clinical practice and in medical research. It constricts one's imagination and intellectual curiosity. Individual thought and initiative suffer. You find yourself thinking, "I can't read this paper on oncogenes or this textbook because I have to memorize these facts in the syllabus for the test in two weeks." Certainly some degree of rote memorization is a necessary evil of any professional training, but have we gone too far?

And, let us not get caught up in arguing over statistical data with respect to the "predictive value" of the MCAT, for this merely obfuscates the issues by intellectual exercises. But it is somewhat anxiety-provoking to "rely instead wholly on the judgment of the college faculties" as Lewis Thomas has recommended. How nice it would be if we could enter MCAT scores and other such numbers in a computer program, and presto ... a printout such as '95% certainty of completing medical school and postgraduate training in minimum number of years, without significant emotional or other disturbances.' To aspire to such impersonal standards discounts one of our greatest assets as physicians; namely, those human skills that are important to success as a healthcare team member, as a professional colleague and, most importantly, as a trusted doctor to our patients.

Certainly, if a medical school as sound as Rochester University can manage to select candidates without the MCAT, so can we. Don't we think it is time that Washington University took the lead in improving the state of premedical and undergraduate medical education?

Respectfully submitted,
Lawrence E. Cormier, M.D. '82
Third-year resident
Department of Psychiatry and Behavioral Sciences
University of Washington
Seattle
(Editor's note: While Cormier was a medical student here, he worked on the School of Medicine's Course and Faculty Evaluation Program.)

Dear Editor:

"Neural Regeneration" in the Fall issue of Outlook is accurate, informative, and very well written. You have done a remarkable job in assimilating diverse and often complicated data and presenting them in a way that is intelligible to the entire University community. The writing is free of hype. Rather, it is understated in a way that earns you the appreciation of the scientists involved.

Thanks for your effort and your patience. With this result in hand, I am sure everyone in the neuroscience community, look forward to working with you again in the future.

Regards,
Gerald D. Fischbach, M.D.
Edison Professor of Neurobiology
Chairman, Department of Anatomy and Neurobiology

Dear Editor:

After reading the summer issue, I want to tell you what a fine magazine I think Outlook is. It continues to be well balanced between the microenvironment of basic research and the macroenvironment of clinical medicine, and the political and social climate in which the medical school must function. I particularly enjoy articles like Dr. Weldon's that provide a vision of the future based on trends from the past; I found her article riveting. The layout is so attractive, the magazine begs you to pick it up. All in all, it's quite an improvement from last year's Outlook and gives one substance as well as style!

Sincerely yours,
Robert Herr, M.D. '84
(Editor's note: Robert Herr is currently in a combined residency at Northwestern.)
**REUNION CLASSES/CHAIRMEN**

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<tr>
<th>Year</th>
<th>Chairmen</th>
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<tbody>
<tr>
<td>1930</td>
<td>Israel Newmark, M.D.</td>
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<tr>
<td>1935</td>
<td>Richard A. Sutter, M.D.</td>
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<td>1940</td>
<td>Llewellyn Sale, M.D.</td>
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<td>1945</td>
<td>Marshall Conrad, M.D.</td>
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<td>1950</td>
<td>Maurice Lonsway, M.D.</td>
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<td>1955</td>
<td>Miles Whitener, M.D.</td>
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<td>1960</td>
<td>David Hammond, M.D.</td>
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<td>1965</td>
<td>Roger Mell, M.D.</td>
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<td>1970</td>
<td>Francisco Garriga, M.D.</td>
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<td>1975</td>
<td>David B. Clifford, M.D.</td>
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**GENERAL INFORMATION**

**REGISTRATION**

Pre-registration is requested. Please return the enclosed form with remittance to the Medical Alumni Office. Tickets for the social functions will also be available at the registration desk.

**ACCOMMODATIONS**

Blocks of rooms have been reserved at Marriott's Pavilion Hotel, One Broadway, downtown. You will be receiving a letter and registration card from your class chairman shortly.

**TRANSPORTATION**

Complimentary shuttle bus service will be provided to all activities.

☐ Yes  ☐ No  ☐ Undecided

I will attend the Medical Alumni Reunion on May 2-4, 1985.

Please Print:

Name ___________________________ Year ________

(Name of spouse or guest)

Address ___________________________ Telephone _____________

City/State __________________________ Zip Code _____________

reservations for the Class Dinner @ $30 per person.
reservations for the Dinner Dance @ $30 per person.

Enclosed please find my check, made payable to Washington University, in the amount of ________________ .
These exterior views of the Clinical Sciences Research Building (left and lower right) display some of the structure's unique features. A serpentine shape accommodates the structure to the site. The building's core (Olin Tower) connects with another structure to the south (McKinney Tower) and a third tower to the north. Triangularly shaped steel trusses give a distinctive look to the walkway connecting the CSRB with the Wohl Building. A view of the new Children's Hospital from inside the CSRB's second-floor walkway (upper right).
This 19th century chromolithograph of the retina is from “Beiträge zur Pathologie des Auges” by Eduard Jaeger, catalogued in the rare books division of the School of Medicine's Library. (See story, page 8.)