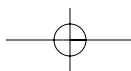




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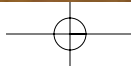
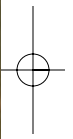
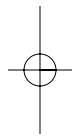
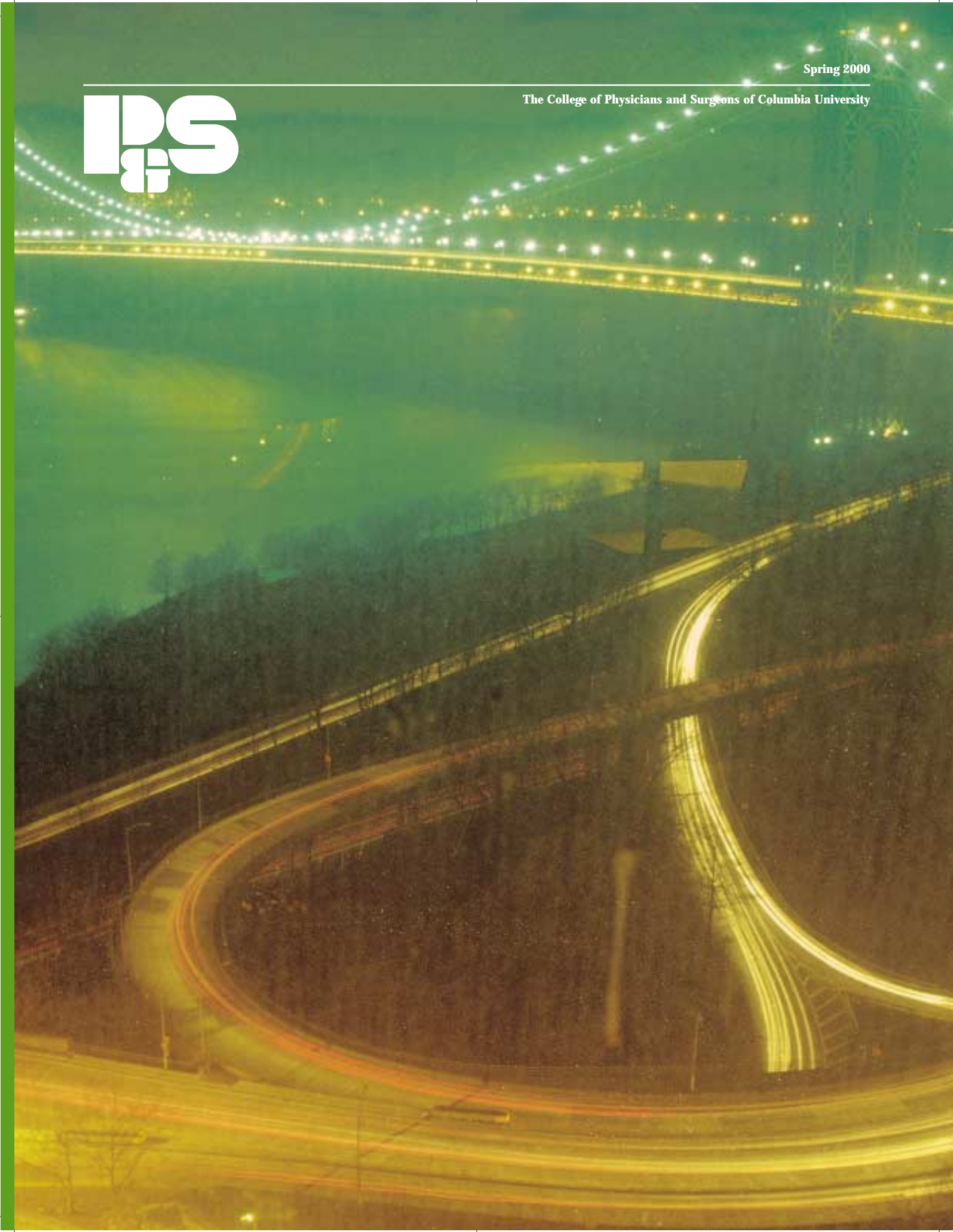


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Spring 2000

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I N T H I S I S S U E

Vol. 20 No. 2 Spring 2000

The Journal of the College of Physicians and Surgeons of Columbia University

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ON THE COVER: Dr. Jeffrey Johnson, assistant professor of clinical psychology in the Department of Psychiatry, captured this image of the George Washington Bridge and surrounding area from the 16th floor of the second of the Bard-Haven Towers. A collection of Dr. Johnson's photos are on display through June 23 at the Hintersteiner Gallery inside the Hammer Health Sciences Center at the medical center. The exhibit, Dr. Johnson's first solo exhibit, is titled "Silhouettes, Shadows, and Reflections."

L E T T E R S / E - M A I L

Dr. Tapley

Dear Editor,

I had planned to write to Don Tapley many months ago to thank him but realize that we must now proceed without him while building on all that he, and other colleagues, have done. Since Don and I were interns together in 1952 (he was fresh from Chicago) he has been a mainstay for P&S! And done so much.

I write belatedly to congratulate him and his colleagues for the improved and highly informative *P&S Journal*. I cite in particular the outstanding review of apoptosis in the Fall 1999 issue. This cutting edge topic was well presented (and clearly so, from bcl-2 to caspases) while showcasing the many scientists at P&S working in this field.

Don will be missed.

Joseph C. Shipp'52
Santa Barbara, Calif.

Dr. Hanger

Dear Editor,

The article on Dr. Franklin Hanger was a forceful bit of nostalgia for me. I so well remember sitting in awe in the class on physical diagnosis as he had a way of filling the amphitheater with his presence. When he was explaining the importance of careful observation at all times, he used as an example this anecdote: He said he had a class of students and the subject was diabetes. He said that observation of all elements was essential even to the extent that the urine could be tasted for the presence of sugar. For this purpose he took an unknown specimen and asked the class to do what he was doing as he put a finger into the urine and on his tongue to make the determination.

After the entire class dipped their fingers in the urine and then into their mouths, he declared that they all flunked. He said, "If you had been observant you would have noticed that I put my index finger into the urine and my middle finger in my mouth. I still remember the shock of this surprise.

Herbert Sandick'45
Pittsfield, Mass.

Dear Editor,

May I add a couple of anecdotes to Nick Christy's fine recollections of Dr. Hanger [Faculty Remembered, Winter 2000]?

This happening I witnessed (around 1951): Dr. Hanger was making ward rounds with fever as the patient's chief complaint. "Ah," said Dr. Hanger, "rectal hootchie-kootchie."

This is hear-say, told by a resident present (around 1952) when Dr. Hanger had consulted on one of a number of Saudi sheiks who arrived with liver problems. The sheik's secretary inquired about Dr. Hanger's fee, checkbook in hand. The answer was "10," and the secretary said "10 thousand?" and was about to write a check when

Dr. Hanger, whose fee would have gone to the Department of Medicine (where the motto was, often preached to the housestaff, "Don't overdo!"), replied, "No. 10." and that was his fee.

Hans W. Neuberg'50
P&S Clinical Professor of Medicine

Dear Editor,

I was pleased to read the article on Dr. Franklin Hanger whom I knew both as a student and as a friend. He had served as our family's physician on several occasions in the late 40s. I have always had the highest regard for him.

Our class had been selected to attend P&S just after Pearl Harbor and as the onset of the first year approached the college was faced with several problems, among them the loss of many of the younger staff to the armed forces and the obvious need for more physicians for both the war effort and civilian care. They solved the problem by using the senior physicians for most of the teaching and eliminating most vacations so that the four years of medical school could be completed in three chronological years. None of the scheduled classes were abandoned. We were the lucky ones. Our teachers were Drs. Atchley, Loeb, Hanger, Leib, Seegal, Richards, Courmand, Stout, Whipple, Golden, Murray, and others I wish I could remember. Most of the junior staff were gone. A perfect example of what happened was Ross Golden. He was, at the same time, professor of radiology, chief of radiology of the Presbyterian Hospital, chief of radiology of the Harkness Pavilion, and [he] taught us radiology. It may be hard to believe, but he was earning less than an intern earns today. He was such a wonderful lecturer and person that many of our class went into radiology as a specialty. The remark in the article, "There was leisure then for that kind of amenity—not like today's frantic pace," is an insult to all of these men who served the college so well. There may be some that think the early 40s were a stroll in the park but I can assure them that we worked our butts off with the shortage of staff and nurses. I wonder how the present professors would like it if 50 percent of their staff were to disappear.

If I had to use one term to describe our teachers, it is "gentlemen." I would modify that and say they were gentlemen who practiced medicine. Collectively they spent three years trying to make us gentlemen not by protocols, or written rules, or browbeating but by example. Over the years you could see each of us change and conform to what they desired in speech, clothing, demeanor, and particularly respect for the patient as an individual. They taught us to think! At the risk of sounding extremely critical, as time has gone by, I have met fewer gentlemen in medicine.

Most of these individuals were practicing physicians with their own patients usually in Harkness. As a rule they did much of their own research and wrote their own articles. Their command of the English language was superior. Just read their articles for the flow

of words. There weren't ghost writers in those days. The habit of the chairman of a department insisting that his name appear on all articles emerging from that department had not been discovered. Before I receive some letters by offended individuals I will mention that I have been a chairman of a medical school department.

Dr. Hanger's reaction to the flu epidemic of 1917-1918 is easily understood. He was in medical school at the time and was well aware of how devastating the epidemic was. More people died in the flu epidemic than were killed on all the battlefields in World War I. He was 24 at the time and possibly the girl he remarked about meant a great deal to him. There are certain things that always stay in your mind. I shall never forget the emaciated men that were brought to the Naval hospital from the Japanese prison camps after Japan surrendered. Hanger was a bachelor until 1944 or early 1945 when he married a widow who was supposed to be the girl of his long ago dreams. Whether true or not, despite their ages they had a child. He changed after that, some may say for the better. The remark in the article "that as an astute clinical observer, he was not always right" seems unnecessary. It reminds me of the old joke "What is the difference between God and a doctor?" the answer being "God doesn't think he's a doctor." Lay people will laugh but silently agree.

As I look back at my medical schooling, I realize that attending school continuously was a good system. We may have missed some trips during summer vacation, but for most of us the Navy and the Army took care of that later on. In one of your previous issues, a classmate of mine, Sherwood Vine, felt that with the marked increase in medical advances that the medical school curriculum should be extended for another year. With the coming genetic revolution, this may well be desirable. It could easily be accomplished by keeping the present four-year program but eliminating almost all prolonged vacation time. Seven to 10 days between semesters is ample time to recharge your batteries.

Alan E. Baum'45
Palm City, Fla.

Alumni Profile

Dear Editor,

Peter Wortsman's profile of Martha Morgan MacGuffie'49 [Alumni Profile, Winter 2000] is beautiful. It is all there: body, mind, soul (feeling life), and spirit. Congratulations and thank you!

Margaret Morgan Lawrence'40
by e-mail

More About "Shorty"

Dear Editor,

The evocative article about Al Grokoest by Nick Christy and the responsive letters brought prompt memory. For me the most

poignant personal memorial of Shorty was an afternoon together in Group Clinic, occurring just 50 years ago, yet with the vividness of a scene witnessed only yesterday:

I sat with him during a patient's follow-up visit. The man was a middle-aged post office worker with lymphoma. What made the situation eerie and awesome was the history recounted hesitantly of working at the desk next to his best friend, who had been afflicted with lymphoma! Shorty's patient had empathically followed his friend's tormented clinical course and had even donated blood during the terminal agony. Following his friend's death, the patient had arranged to change his seat, to cross the aisle and occupy his deceased friend's desk. Months later the man who was sitting with us felt a lump in his axilla, and the biopsy revealed lymphoma, for which treatment was ongoing.

The man was in the depths of despair, asking Shorty how many months he had to live. Why should he eat anything, if he was a "dead man" anyhow? For the next ¾ hour I listened to Shorty's soft-spoken efforts to scrape the patient's spirit off the floor and send him home with a different attitude toward collaborating with family and physicians in his further care.

Shocking, perhaps, but till that day I had never had the opportunity to observe a physician working so patiently with someone whose mood led other staff to shun him. Plainly, Shorty was treating a patient, not just an illness. I don't doubt that this experience made a considerable contribution to my finding my way to becoming a psychoanalyst.

Stephen K. Firestein'51
by e-mail

Kudos

Dear Editor,

Congratulations on the new P&S magazine. It is light years more interesting and informative than the old one. I read or perused every article for the first time in years. The color and graphics were most attractive.

Keep up the good work.

Alan F. Korhammer'60
by e-mail

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FACULTY REMEMBERED

Viola Wertheim Bernard 1907-1998

By Nicholas P. Christy'51

This series, Faculty Remembered, features profiles of former faculty members at P&S. The author of the series is a 1951 P&S graduate and former professor of medicine. He is now special lecturer in medicine and writer-in-residence at P&S.

The best reason for a profile of Viola Bernard, who died in 1998, is that Columbia must never forget her. A pioneer psychoanalyst, Dr. Bernard, who was clinical professor emeritus of psychiatry when she died, accomplished more than we can easily believe. She produced many papers but did more than she wrote, and forgetting deeds is easy. As with distant objects in the universe, the longer ago a death, the faster it recedes from us. And what happens in the psychiatric world is often hidden from or overlooked by the rest of the medical profession. So it seems important to fix her in our institutional memory as firmly as we can.

Viola Bernard was born in Manhattan to great wealth; she



grew up, studied, trained, practiced, married and divorced, worked, taught, and died in that borough. To place her in general history: 1907, the year of her birth, saw Theodore Roosevelt as president; the five boroughs of New York City had come together as one municipality only nine years earlier. Tammany Hall ruled New York. "Boss" Charles Francis Murphy ruled Tammany and the mayor, George B. McClellan Jr. A different world from now, or so we want to believe. Relevant to Dr. Bernard's career, in 1909, when she was 2, Sigmund Freud visited the United States with several other European intellectual luminaries and gave five influential lectures on psychoanalysis at Clark University in Worcester, Mass.

Bernard's early education, partly at NYU, inculcated a passionate interest in literature and philosophy. During her exploratory years, the 1930s, she married and underwent an "anguished divorce." Philosophy and academia now seemed too recondite, too removed from real life, so she decided on medical school, where she was six years older than her classmates, only three of whom were women. She found the psychiatry lectures dull, so she supplemented them by attending an outside night course twice a week in psychiatric social work, then a very new field. Graduating from Cornell Medical College in 1936, she took two unglamorous house staff years, then went to Columbia and the New York State Psychiatric Institute, where she began her psychoanalytic training.

Her 62-year career was so broad and active, so all-embracing, that a straight chronological account would provide a hopeless tangle. What follows is a very short sketch organized more or less by topic. The dominant theme is balance: balance between generosity and cool judgment, enthusiasm and self-restraint; between strongly held liberal views and the tactful expression of them; between a deep commitment to psychoanalytic theory and a ready willingness to incorporate new therapeutic modalities (she called herself a "composite therapist"); between the demands of psychoanalytic teaching and practice and involvement in community, national, and international affairs. One could say her life work embodied benevolence and practical wisdom.

In the 1930s and 1940s, before, during, and after her early training, Dr. Bernard helped many refugees from Nazism, aided children orphaned by World War II, looked after people fleeing Europe, worked—unsuccessfully—to promote legislation that would allow immigration of European fugitives into the United States, and opened her family's large house in Nyack, N.Y., to those in flight. Her professional work with children harmonized with the above: She found practical ways to help adopted and foster children feel at home in new surroundings by arranging for them to visit the new place in advance. In her words: "Helping children to see where they are going reduces fear of strangeness."

Even her analytic training years were eventful: instructive but not bloodless. Her quality was recognized early. Her mentors set her to teaching and supervising students while she was still in training. She was involved, willy-nilly, with at least four different organizations, their names too long and cumbersome for this space. The politics was Byzantine: factions within factions, psychiatry, psychoanalysis, psychosomatic medicine, this and that institute, university, departments, hirings, firings. Dr. Bernard, wisely attempting to lower the temperature of controversy, "oozed out" (her phrase) of one entity, not wishing to "blow out" of it and add further to the already raucous publicity.

During this time, the famous Sandor Rado was her training analyst—a man who had worked within Freud's circle in Europe—thus Dr. Bernard was a first-generation Freudian. Her analysis was rendered difficult by Rado finding it necessary to rethink and reformulate Freud's and his own theories. In the end, she felt she had to undergo a second analysis later. She had been urged to quit one group but, typically, would not because she was unwilling to abandon her own trainees and analysts.

All along, with her left hand, Dr. Bernard contributed copiously to the analytic literature, producing more than 100 papers, the last one appearing in the month of her death at age 91. Full of zest all her life long, she traveled constantly, played tennis into her 80s, led a busy social life, and created a philanthropic foundation.

As in other fields, Dr. Bernard supported unpopular points of

view in teaching. We tend to forget that one of the first teaching arrangements between the impoverished New York City health system and the "snooty" university medical schools and their hospitals came about in psychiatry. Three major agents, the "triumvirate," comprised Dr. Ray Trussell, commissioner of health and hospitals, who was very unpopular with medical professors; Dr. Lawrence Kolb, then chairman of psychiatry at P&S; and Dr. Bernard. One of their first successes was at Harlem Hospital.

Dr. Bernard's major contribution came in pioneering the new field of "social psychoanalysis," the application of analytic principles to social problems. She also strove to "get psychoanalysis out of the closet." She believed that analysis was too restricted to a well-to-do, sophisticated, upper middle class clientele, ethnically and socially too homogenous. She founded a low-fee psychoanalytic clinic. She successfully promoted the induction of black psychiatrists into the practice and teaching of psychoanalysis. She was adept at fostering collaboration among disparate professional groups and fought hard for academic freedom, hating Orwellian "groupthink" in departments and institutions.

Viola Bernard left most of her money for charitable purposes. It is not hyperbole to claim that her work benefited thousands of people—patients and others. Among her surviving colleagues and co-workers she left a legacy of deep and lasting affection. With a razor-sharp mind and a benign sense of humor she inspired admiration and love all around her.

Author's Note: To fill in the details of Dr. Bernard's career—innumerable professional activities, membership in societies, honors and awards, posts in professional organizations, detailed curriculum vitae, list of publications—the reader may wish to consult the P&S Archives in the library. Soon, her specific archive will be available for study, including books, scientific papers, addresses, and, best of all, records of taped interviews with her; these contain priceless historical anecdotes and many specimens of her incisive humor. The author is grateful to the archivist, Stephen Novak, and to Joan Jackson of the Columbia University Center for Psychoanalytic Training and Research.—N.C.

R E S E A R C H R E P O R T S

Emergency Bypass or Angioplasty Benefits Patients Most at Risk During Heart Attacks

Lead researcher: Judith S. Hochman

Those most at risk of dying from a heart attack are likely to benefit from immediate angioplasty or coronary artery bypass, according to a report in the Aug. 26, 1999, issue of the *New England Journal of Medicine*. Cardiogenic shock is the leading cause of death in patients hospitalized for myocardial infarction, with a death rate of 70 percent to 80 percent. Dr. Judith S. Hochman, associate professor of medicine, and her colleagues randomly assigned patients with myocardial infarction complicated by shock due to left ventricular failure to emergency revascularization or initial medical stabilization. Eighty-six percent of the patients in both groups received intraaortic balloon counterpulsation. Patients undergoing emergency revascularization had death rates 20 percent lower than those receiving medical treatment. For patients under age 75, the emergency revascularization increased chances of survival at six months by 57 percent.

The research was supported by grants from the National Heart, Lung, and Blood Institute and a grant-in-aid from the American Heart Association.

Dynamic Development

Lead researcher: Claudio Stern

Very early in development, an embryo transforms itself during a process called gastrulation. Cells migrate dramatically as the disklike blastula assumes a 3-D structure. During this stage the embryo develops some of the most basic features of an organism, including the body axis, the earliest stages of the nervous system, and the three primary germ layers—ectoderm, mesoderm, and endoderm—from which all tissues and organs subsequently develop.

A small group of cells, known as the gastrula organizer, drives this transformation, primarily by secreting proteins that diffuse across the embryo. The organizer, first identified more than 75 years ago, is located in a specific region of the developing organism, at the tip of a structure called the primitive streak. The primitive streak is like a doorway that lets some cells into the embryo to generate the middle layer. Although cells are constantly migrating to different positions within the embryo during this stage, it has generally been thought that the organizer was made up of a stationary set of cells that orchestrated the entire process.

Dr. Claudio Stern, professor and chairman of genetics & development, has now shown that the organizer is not a defined set of cells but merely a position, or state within the developing embryo, through which cells pass quite rapidly on their way to their final destination. While in that position, they assume the role of organizer cells, expressing specific genes and secreting the inducing proteins. The study also revealed that surrounding regions of the embryo emit a set of proteins that act as inhibitors and others that act as inducers, whose combined action defines the location of the organizer. Dr. Stern's findings reveal that embryo development is even more dynamic than had previously been envisioned and that the expression of some genes in moving cells is coordinated by instructions from their neighboring cells.

The report, co-authored by graduate student Katherine Joubin, appeared in the Sept. 3, 1999, issue of *Cell*. The research was funded by the NIH.

Gene Suggests New Route to Cancer

Lead Researcher: Beth Levine

An important part of cellular housekeeping is the bulk degradation of the cell's own proteins, known as autophagy. As reported in the Dec. 9, 1999, issue of *Nature*, P&S researchers identified the first mam-

malian gene known to participate in autophagy. The gene, *beclin 1*, also appears to play a role in breast cancer. It can inhibit tumor growth and is expressed at decreased levels in human breast cancer. These findings suggest a new route to the development of cancer, via defects in autophagy pathways.

"Cells undergoing autophagy essentially eat themselves. They digest their own proteins to remodel themselves, to survive during periods of starvation and to limit growth," says Dr. Beth Levine, assistant professor of medicine and lead author of the study. "It appears that *beclin 1* may provide a genetic link between autophagy and negative control of tumor growth. This raises the possibility that treatments that restore autophagy in cancer cells could be beneficial."

Dr. Levine and her colleagues originally discovered *beclin 1* while searching for novel proteins that bind to the cell-death inhibitor, *Bcl-2*. They noted that *beclin 1* is similar to a yeast gene controlling autophagy and that it maps to a chromosomal section deleted in 40 percent to 75 percent of sporadic breast and ovarian cancers. This led them to study the gene's function and role in breast cancer.

They inserted *beclin 1* into a human breast-cancer cell line known as MCF7 cells. The cell line was originally derived from a patient lacking one copy of a chromosomal section deleted in many breast and ovarian cancers. The MCF7 cells do not normally express detectable levels of the *Beclin 1* protein.

They then subjected genetically unaltered MCF7 cells and the MCF7 cells containing *beclin 1* to starvation conditions that normally trigger apoptosis. The MCF7 cells containing *beclin 1* displayed characteristics of autophagy, while the unaltered MCF7 cells did not. Tumors formed three to four times as often in mice injected with normal MCF7 cells as they did in mice injected with the MCF7 cells containing *beclin 1*.

Dr. Levine and her colleagues also showed that *beclin 1* was expressed in

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all 32 samples of normal breast epithelial cells but was reduced significantly in 18 of 32 samples of breast cancer cells.

Effective Treatments for Attention Deficit Hyperactivity Disorder

P&S researchers: **Peter Jensen and Laurence Greenhill**

A collaborative Multimodal Treatment Study of Children with Attention Deficit Hyperactivity Disorder, funded by the National Institute of Mental Health and the Department of Education, showed that, on average, carefully monitored medication management with monthly follow-up and input from teachers is more effective than intensive behavioral treatment for ADHD.

Results of the study, which followed children for 14 months, were reported in the December 1999 issue of the *Archives of General Psychiatry*.

Attention deficit hyperactivity disorder is the most commonly diagnosed disorder of children, estimated to affect 3 percent to 5 percent of school-age children. That means that on average at least one child in every classroom in the United States needs help for the disorder.

In this landmark study, the first major clinical trial to look at childhood mental illness and the largest NIMH clinical trial ever, researchers at the New York State Psychiatric Institute and other sites tested the leading treatments for ADHD for long-term efficacy.

The study randomly assigned nearly 600 elementary school children, ages 7 to 9, to one of four treatment programs: medication management alone, behavioral treatment alone, a combination of medical management and behavioral treatment, or routine community care. "All children tended to improve over the course of the study, but they differed in the relative amount of improvement," says Dr. Peter Jensen, lead investigator of the study.

The combination of medication management and intensive behavioral treatments also was significantly superior to psychosocial treatments alone in reducing ADHD symptoms. For some outcomes that are important in the daily functioning of children—academic performance and familial relations, for example—the combination of behavioral therapy and medication was necessary to produce improvements, and families and teachers reported somewhat higher levels of consumer satisfaction for treatments that included the behavioral therapy components. The combination program allowed children to be treated over the course of the study with somewhat lower doses of medication.

The study also found substantial differences between the study-provided medication treatments and those provided in the community, differences mostly related to the quality and intensity of the medication management treatment.

"As the first major randomized treatment study, one of the most important results is that these same findings were replicated across six sites, located at diverse but representative geographical areas in this country and in Canada, despite substantial differences among sites in their samples' sociodemographic characteristics. This means that the study's overall results are probably applicable and generalizable for the many and diverse children and families in need of treatment services for ADHD," says Dr. Laurence Greenhill, professor of clinical psychiatry and coordinator of the Columbia/NYSPI study site.

New Drug Prevents Transplant Rejection Without Adverse Reactions

Lead researcher: **Ainat Beniaminovitz**

Columbia cardiologists have found that a new drug reduces the frequency and severity of acute rejection episodes in heart trans-

plant patients, potentially lengthening their lives.

Research led by Dr. Ainat Beniaminovitz, assistant professor of medicine, evaluated the drug daclizumab in a clinical trial of 55 heart transplant patients. The research was reported in the March 2 issue of the *New England Journal of Medicine*. All of the patients received immunosuppressant therapy with cyclosporine, mycophenolate mofetil, and prednisone, while 28 also were given induction therapy with daclizumab every two weeks for 10 weeks after transplantation. Daclizumab is a humanized monoclonal antibody, a manufactured molecule specifically designed to block a receptor located on the surface of white blood cells that is activated in the immune response that modulates rejection.

Of the 28 patients given daclizumab, only five developed acute rejection, while 17 of the 27 patients in the control group had episodes of acute rejection. Nine of the patients in the control group developed moderately severe rejection, compared with two of the daclizumab-treated patients. The rejection episodes that developed in the daclizumab-treated patients occurred later after transplant and were less severe.

Acute rejection after transplantation occurs when the body's immune system attacks the foreign organ. A patient is most likely to experience frequent rejection episodes in the first three months after the transplant. Such repeated episodes of acute rejection can lead to chronic rejection, which in turn causes blockages along the arteries of the transplanted heart. No treatment exists for these blockages, which are called cardiac allograft vasculopathy. Experts believe that reducing the number and severity of acute rejections may make chronic rejection less likely.

Daclizumab is not the first monoclonal antibody used to prevent organ rejection. Similar drugs that have been able to decrease the frequency and

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severity of acute rejection episodes also can cause global immunosuppression. This increases patients' vulnerability to infection and cancer. Past studies of daclizumab in kidney transplant patients found no increase in the incidence of infection. In Dr. Benjaminovitz' study, the patients treated with daclizumab did not have a higher incidence of infection and cancer than the control group.

Based on the results of this study, Dr. Benjaminovitz and her colleagues are planning a larger multicenter clinical trial of daclizumab.

Brain Chemical May Play a Role in Extreme Shyness

Lead researcher: Franklin Schneier

In a first step toward understanding the underlying brain chemistry of shyness, researchers at the New York State Psychiatric Institute report that a low density of a dopamine receptor in the brain is associated with social phobia. This finding adds to growing evidence that social phobia, also known as social anxiety disorder, has a biological basis.

People with social phobia, the third most common psychiatric illness after depression and substance abuse, often suffer extreme fear and embarrassment in ordinary social interactions.

Dr. Franklin Schneier, associate professor of clinical psychiatry, and his colleagues at the Anxiety Disorders Clinic compared 10 subjects with social phobia with 10 people without the phobia. They measured the severity of patients' social phobia with questionnaires and then evaluated their brain chemistry using SPECT imaging. The people with social anxiety disorder had significantly lower densities of the dopamine D2 receptor.

The study, published in the March issue of the *American Journal of Psychiatry*, was funded by the Sycamore Foundation and Solvay Pharmaceuticals.

Depression After Bypass Surgery Raises Risk of Future Heart Problems

P&S researchers: Peter Shapiro and Richard Sloan

Recovery after coronary artery bypass surgery depends as much on the patient's state of mind as it does on the condition of the patient's heart, according to researchers at the University of Maryland and P&S. The study, which looked at both men and women, is the first of its kind to evaluate the impact of depression on women following bypass surgery.

Results were presented March 2 at the annual meeting of the American Psychosomatic Society in Savannah, Ga., by principal investigator Dr. Ingrid Connerney. Two P&S faculty members, Dr. Peter Shapiro, associate professor of clinical psychiatry, and Dr. Richard Sloan, associate professor of clinical psychology, collaborated on the study.

The study included 309 patients (207 men and 102 women) who had bypass surgery at the University of Maryland Medical Center in Baltimore. The researchers looked at whether depression before leaving the hospital played a role in how well they would do within a year following surgery. They found that depressed patients were at least three times more likely to experience a cardiac problem within the next 12 months than those who were not depressed.

Such problems included chest pain, heart failure requiring hospitalization, a heart attack, or the need for another cardiac procedure.

The researchers also found that the women in the study had a three times greater risk of future cardiac events than the men. Women who were depressed had the highest risk. Almost half of the depressed women (47 percent) had a serious cardiac problem within a year after surgery, while 18 percent of the women who were not depressed had

further problems. The study found that 21 percent of the depressed men had later heart problems, compared with only 6 percent of non-depressed men.

For the study, Dr. Connerney performed a detailed psychiatric interview with each patient before discharge from the hospital. The patients were assessed in a follow-up 12 months later.

"We looked at many factors, including the patient's age, gender, marital status, smoking behavior, and depression," says Dr. Connerney, "but it turned out that only depression, heart condition, and gender mattered, and they were of equal importance. The increased risk faced by women could not be explained by differences in demographics, severity of disease, or other factors.

"Based on our findings, we believe that physicians and patients need to be aware of the increased risks faced by patients suffering depression," says Dr. Connerney. "The next logical step is to investigate whether treatment of depression lessens the risk of future cardiac events." About 20 percent of heart bypass patients suffer from depression in the hospital.

Gun Violence Among Urban Youth is Social and Contagious

Lead researcher: Jeffrey Fagan

Gun violence among urban youth follows a pattern similar to that of an infectious disease epidemic and, like infection, is contagious, says Dr. Jeffrey Fagan, professor of public health and director of the Joseph L. Mailman School of Public Health's Center for Violence Research and Prevention.

Dr. Fagan presented his analysis of gun violence and its spread to the American Association for the Advancement of Science at its annual meeting in Washington, D.C., in January 2000.

In New York City in 1985, 815 people were murdered with guns. This

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number steadily increased until 1991, when 1,644 gun homicides occurred. A rapid decline followed, and by 1995 the city's annual count of gun homicides was 818. The gun murder rate continues to decline. Gun homicide rates in other large American cities, as well as nationwide, mirror this pattern.

Social scientists and other analysts have suggested that illegal drug activity and gang violence are responsible for such peaks and valleys. But Dr. Fagan asserts that guns and the social identities associated with these weapons, as well as poverty, social isolation, and lack of social control, are the engines driving the cycle.

Dr. Fagan used vital statistics for New York City from 1985 to 1995, census data, and interviews with young inner-city males to test his hypothesis. He examined the relationship between drug activity and gun homicides by looking at drug arrests and drug overdose deaths over this time period and determined that drug marketing could not explain the cycle of gun violence.

After assembling census tracts into neighborhoods, he developed a model for analyzing the spatial diffusion of gun violence and found that "the presence of gun homicides in one neighborhood significantly increased the likelihood of gun homicide in any of the surrounding neighborhoods during the subsequent year." Dr. Fagan's analysis revealed that poor neighborhoods and those with demographic characteristics that could contribute to a lack of social control and stability (for example, many more children, adolescents, and young adults than older individuals or family structures that were unable to provide support to family members) are more susceptible to the spread of gun homicide.

The mechanism for the spread of gun violence is social, Dr. Fagan says. He argues that guns have become status symbols necessary to inner-city life. The "violent identity" based on gun ownership is itself contagious and, according to Dr. Fagan, has "eclipsed or devalued

other identities." Boys and young men who do not build dominant identities for themselves, he explains, are considered "punks and herbs," targets for harassment and violence. Meanwhile, the highest social status is given to "crazy, wild" young men who commit acts of extreme violence. In the middle are males who "hold their own." They enjoy respect but may be frequently challenged to defend their status.

Dr. Fagan likens the spread of violence to an influenza epidemic, where "the ill grows and spreads from the inside, often long after the origins have subsided." Because guns are so central to the spread of violence, he says, efforts to fight crime will be most successful if they focus on guns.

Link Between Blood-Clotting Factors, Estrogen Levels

Lead researcher: Elsa-Grace Giardina

Levels of two blood factors associated with heart disease risk vary during the course of a woman's menstrual cycle, according to research presented at the American College of Cardiology's annual meeting March 12. This finding could have ramifications for understanding heart disease risk in pre-menopausal women and the cardiovascular effects of estrogen supplementation after menopause, according to research led by Dr. Elsa-Grace Giardina, professor of clinical medicine and medical director of the Center for Women's Health at Columbia-Presbyterian Medical Center.

Dr. Giardina's research is the first to investigate levels of plasminogen activator inhibitor (PAI-1), fibrin D-dimer, and von Willebrand Factor (vWF) in pre-menopausal women. PAI-1 enhances the breakup of blood clots, while vWF promotes clotting.

Dr. Giardina's team used a precise lab test called an enzyme-linked immuno-

sorbent assay to check levels of the three factors in 19 women at days 2, 9, 16, and 23 of their menstrual cycles.

During a normal menstrual cycle, estrogen levels increase steadily. The Columbia team found that levels of PAI-1 decreased steadily as the cycle progressed, while levels of vWF peaked at days 2 and 23 of the cycle. While the increase in vWF may not be good for premenstrual women, says Dr. Giardina, "it may be disastrous for postmenopausal women," who are at greater risk for heart attack.

Two inferences can be made from the research, says Dr. Giardina: Young women who have heart attacks may have abnormal levels of PAI-1 and vWF, promoting blood clotting, and it may be helpful to monitor levels of these factors in postmenopausal women, just as estrogen levels are monitored, to gauge heart disease risk.

Comparable Short-term Health Outcomes From Nurse Practitioners

Lead researcher: Mary O. Munding

Certain primary care patients can have similar short-term health outcomes when treated by a physician or a nurse practitioner, according to the lead article of the Jan. 5, 2000, issue of JAMA. Though the study is called an important article about primary health care, an editorial in the same issue said readers should not assume that these results apply to other patient populations or to long-term primary care.

Dr. Mary O. Munding, dean of the School of Nursing, and colleagues compared outcomes for patients randomly assigned to nurse practitioners or physicians for primary care follow-up and ongoing care after visiting a hospital emergency department or urgent care center at Columbia-Presbyterian Medical Center. According to the researchers, nurse practitioners have been evaluated as primary care providers for more than 25

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years, but evaluations did not study nurse practitioners and physicians in comparable practices using a randomized design. The study was conducted between August 1995 and October 1997 in an ambulatory care setting in which nurse practitioners and physicians had the same authority, prescribing ability, responsibilities, productivity, and administrative requirements.

The authors found that in the primary care patient population they studied—predominantly Hispanic—short-term health outcomes were comparable for patients who received care from a physician or a nurse practitioner.

On coming to the emergency department or urgent care center, patients were asked to participate in the study if they had no primary care provider and planned to be in the area for the next six months. Those who agreed were randomly assigned to either a nurse practitioner practice (with seven nurse practitioners) or one of four physician practices (with 17 physicians). Participants completed a Medical Outcomes Study-36-Item Short-Form Health Survey, which elicits patient responses to 36 questions designed to measure eight health concepts, including general health, physical function, and bodily pain.

After the initial primary care visit, interviewers contacted the enrolled patients either by telephone or in person, if necessary, to administer a satisfaction questionnaire. One year's data on all health services utilization at the assigned practice and all other medical center sites were obtained from Medicaid tapes and from medical center computer records. At the six-month point, the survey and satisfaction questionnaires were repeated, additional questions were asked about health services utilization, and psychological measures of health outcomes were conducted for all patients with hypertension, asthma, or diabetes.

The researchers report no significant differences in patients' health status at six months, regardless of treatment by a physician or a nurse practitioner. There

were no differences in the glycosolated hemoglobin (a measure of blood sugar control) of patients with diabetes at the end of six months or in the peak air flow figures (a measure of lung function) for asthmatics. Hypertensive patients treated by nurse practitioners had slightly lower diastolic values at the end of six months, compared with those treated by physicians. No significant differences were found in health services utilization after either six months or one year.

"Who provides primary care is an important policy question," the authors wrote. "As nurse practitioners gain in authority nationally with commercially insured and Medicaid populations now accessing nurse practitioner care, additional research should include these populations."

The study was financed by the Division of Nursing, Health Resources and Services Administration of the U.S. Department of Health and Human Services; the Fan Fox and Leslie R. Samuels Foundation; and the New York State Department of Health.

Finding Suggests New Mechanism for Cellular Radiation Damage

Lead researcher: Tom K. Hei

Ever since Wilhelm Roentgen discovered X-rays more than a hundred years ago, it has been thought that the deleterious effects of ionizing radiation, such as mutation and carcinogenesis, were due to direct DNA damage. Now Dr. Tom K. Hei, professor of radiation oncology and public health, and his colleagues have obtained the first direct evidence that mammalian cells irradiated with ionizing radiation may induce a mutagenic response in neighboring cells not directly hit by radiation. The report, "Induction of a Bystander Mutagenic Effect of Alpha Particles in Mammalian Cells," was published in the Feb. 29, 2000, issue of the *Proceedings of the National Academy of Sciences*.

Dr. Hei and his colleagues, including collaborators from Colorado State Univer-

sity, found that irradiating randomly selected cells with alpha particles produced mutations in surrounding cells at a level three times higher than would be expected if there were no bystander effect.

Using a precision microbeam, the researchers irradiated the nuclei of a fixed proportion of the cells with a lethal dose of 20 alpha particles each. These particles are similar to those emitted by radon, a well-established human lung carcinogen. Irradiated cells were then removed from the original culture dish, incubated, expanded in culture, and the number of mutant cells in the population determined using an antibody-complement assay. Since the directly hit cells were dead and thus did not reproduce to form mutants, the mutation yield in the irradiated population should have been similar to that produced by background radiation. However, Dr. Hei and his colleagues found that the number of mutants was actually three times higher than it would have been if background radiation alone were responsible. Furthermore, the types of mutations induced were very different from those caused by background radiation, suggesting a different induction mechanism. This increase in mutation yield, Dr. Hei and his colleagues contended, must have been produced somehow by the surrounding non-irradiated cells, either because they were neighbors of cells hit with the alpha particles or because the irradiated medium released mutagenic substances.

Further study by Dr. Hei and his colleagues ruled out the latter possibility. They found that treating the cells with lindane, which inhibits communication between cells, decreases the number of mutations, suggesting that cell-cell communication was responsible for the mutation. Treating cells with dimethyl sulfoxide, a chemical that removes cell-damaging oxygen species called free radicals, had no effect on mutation incidence, evidence that reactive oxygen species were not responsible for the mutagenic effect. The findings are likely to have a significant impact on current understanding of radiation risk assessment.

C L I N I C A L A D V A N C E S

By Anne Harding

Cord Blood Extends Stem-Cell Transplants to More Children

A professor of clinical pediatrics is taking advantage of a unique New York resource to improve the care of young patients who need bone marrow transplants.

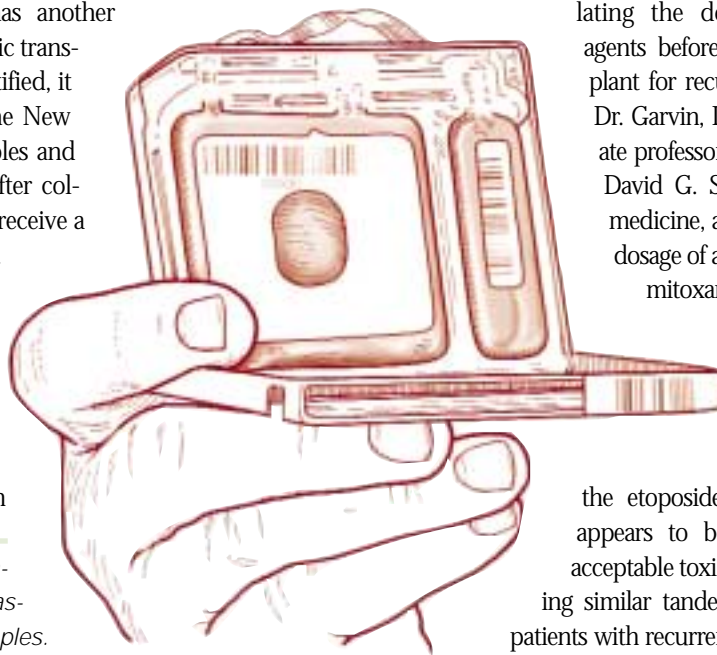
The city is home to the New York Blood Center's Placental Blood Program, the first and largest cord blood bank in the world. The program began banking cord blood in 1993 and now holds more than 11,000 samples. Blood samples are collected from placentas of women who give birth at Brooklyn Hospital and North Shore University Hospital, so they represent a broader cross-section of ethnic and racial backgrounds than normally found among volunteer bone marrow donors. This makes it possible to find matches for patients with a wide variety of ethnic backgrounds. Also, while a match of five or six of six markers is considered optimal for marrow transplant from a family member or unrelated donor, it's nearly as effective to give a transplant of cord blood that's matched at four of six markers. So far, most transplants have been done in children. Adults have been transplanted successfully with cord blood, but the dose is a limiting factor.

Conventional allogeneic bone marrow or stem cell transplants from a matched sibling are available to a minority of individuals, points out Dr. James H. Garvin, professor of clinical pediatrics and clinical director of the pediatric bone marrow transplant program at Columbia-Presbyterian. The chance that a sibling will match is only about one in four, Dr. Garvin says. "Cord blood transplant is an important alternative, and we anticipate increased use of cord blood transplant for leukemia and genetic disorders as we learn more about it."

Cord blood transplantation has another advantage over traditional allogeneic transplants: Once a suitable unit is identified, it can be made available quickly. The New York Blood Center types the samples and tests them for infectious disease after collecting them, and the hospital can receive a requested sample within days. Locating bone marrow donors from a registry can take weeks or months plus the time necessary to collect the sample.

The cord blood units have been the best option for some patients, Dr. Garvin observes, when

The New York Blood Center's Placental Blood Program uses a cassette to store cord blood samples.



"we literally could not find any other donor prospects."

Over the past two years, Dr. Garvin and his colleagues have performed eight transplants using cord blood, six for leukemia, one for a genetic disorder, and another for hemophagocytic lymphohistiocytosis (a rare hematologic condition where early transplant is recommended). The child with the genetic disorder, who was 6 months old when she underwent cord blood transplant, has Krabbe's disease, or globoid cell leukodystrophy. In this rare condition, a child is genetically unable to produce the enzyme galactocerebrosidase, resulting in a buildup of toxic metabolic byproducts that leads to progressive brain damage. White blood cells normally make the enzyme, so the Columbia team gave the child a cord blood transplant to determine whether this could restore her capacity to make galactocerebrosidase. Levels of the enzyme in the child's body were at high normal after the transplant and continue to be normal. It's unclear how much the transplant has helped the child; significant neurological damage had occurred before the transplant, Dr. Garvin says, and further follow-up will be necessary. Several other genetic diseases of children and adults are treatable by this approach.

Cord blood transplants are generally limited to children but could become more broadly available to adults if methods are perfected for multiplying the cells in vitro to produce an adult-size dose or if transplantation of more than one unit at a time succeeds. This age barrier persists for cord blood transplants, but Dr. Garvin and colleagues in adult oncology at Columbia are breaking down another barrier to improve the care of both adults and children with certain cancers. Working together, they are developing protocols for treating both children and adults with certain cancers rather than studying the two age groups separately. With more patients, notes

Dr. Garvin, it's possible to learn more quickly. In one study, the

Columbia team is investigating whether escalating the dosage of chemotherapeutic agents before autologous stem cell transplant for recurrent lymphoma is effective. Dr. Garvin, Dr. Charles Hesdorffer, associate professor of clinical medicine; and Dr. David G. Savage, associate professor of medicine, are attempting to fine-tune the dosage of a double transplant regimen of mitoxantrone, melphalan, etoposide,

thiotepa, and carboplatin by first escalating the mitoxantrone dose to the maximum tolerable level and then increasing

the etoposide dose. So far, the regimen appears to be effective and to have an acceptable toxicity. The team has been studying similar tandem transplant approaches for patients with recurrent sarcoma or brain tumor.

ILLUSTRATION BY SUSAN GILBERT

C L I N I C A L A D V A N C E S

Saving Lives with a New Self-Test

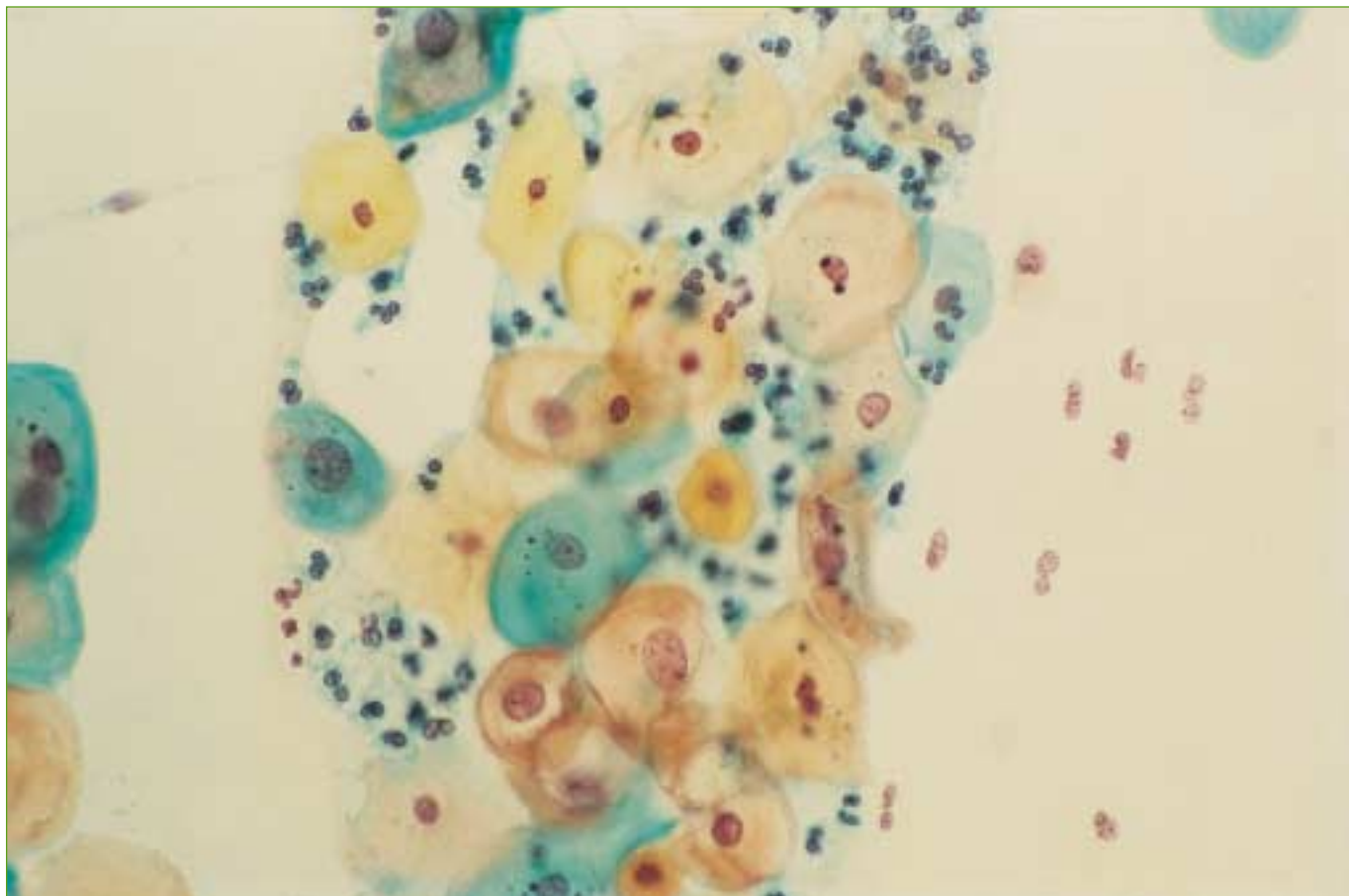
P&S researchers have found that a simple, self-administered test has the potential to bring cervical cancer screening to the developing world, where many women die of the disease because Pap smears are not available to them. The test also could help detect cancer in the significant proportion of older women living in the United States who no longer have regular gynecological exams.

The test uses self-collected vaginal secretions to screen for the DNA of 13 highly carcinogenic human papilloma virus (HPV) species. More than 96 percent of women with cervical cancer are infected with one of these HPV strains.

Dr. Thomas Wright, associate professor of pathology, reported in the Jan. 5 issue of JAMA that the self-administered HPV test is as sensitive as the Pap smear for detecting cancer or high-grade precancerous lesions, although it has a higher false-positive rate (17.1 percent vs. 12.3 percent).

Dr. Wright and colleagues compared the test with four other diagnostic measurements: the Pap smear, visual examination of the cervix after swabbing with 5 percent acetic acid, photography of the cervix, and HPV testing of a physician-collected vaginal secretion sample. Each of the 1,415 women who participated in the test, South Africans between the ages of 35 and 65 who had not been screened for cervical cancer, performed the self-test and then underwent a gynecological exam that included the four other tests. All positive results were followed up with colposcopy.

The women, all volunteers, live in a settlement outside



C L I N I C A L A D V A N C E S

Cape Town and were recruited through community-based outreach programs. Of the 1,365 who completed adequate follow-up, 4.25 percent had cervical cancer or high-grade squamous intraepithelial lesions. Nine had cancer and 47 had high-grade lesions. The self-administered test identified 37 (66.1 percent) of these women, and the Pap smear identified 38 (67.9 percent).

"I think the Pap smear will still be used for cervical cancer screening, especially in young women," Dr. Wright says, "but the HPV self-test could extend effective screening for cervical cancer to thousands of women who would otherwise not get any form of screening."

Existing cervical cancer screening programs have helped to reduce the rate of cervical cancer in North America fivefold over the past 40 years, but cervical cancer remains a leading cause of death among women in regions where Pap smears are not readily available. Underscreening for cervical cancer also is a problem in the United States, where several studies have shown that a significant number of women, especially those 40 and older, do not have regular Pap smears.

In the developing world, one of the main obstacles to cervical cancer screening is a lack of laboratory resources and skilled clinicians and technicians. "In many developing countries," points out study co-author Dr. Louise Kuhn, "cytology services don't exist." Dr. Kuhn is an epidemiologist at the Gertrude H. Sergievsky Center and assistant professor of public health. The DNA test, she adds, can be performed in a relatively unsophisticated lab and provides an objective "yes or no" answer. Digene Corp. of Beltsville, Md., makes the DNA test, which has been licensed by the Food and Drug Administration to evaluate ASCUS results of Pap smears. The costs of collecting and analyzing samples from the DNA test and a Pap smear are roughly the same, Dr. Kuhn says.

Both Dr. Wright and Dr. Kuhn say the test should not yet be considered a replacement for Pap smears, largely because of its lack of specificity. U.S. public health guidelines recommend that women have Pap smears every year or two, but in South

Africa three Pap smears in a lifetime is considered the optimum. The high sensitivity of the DNA test is useful in situations like this where exams will be few and far between and the risk of false-positive tests is more acceptable. But its lack of specificity could lead to considerable anxiety among women identified, falsely, as having cervical cancer, and it could also lead to overtreatment.

However, Dr. Kuhn and Dr. Wright add, the DNA test may be useful for women in the developed world who do not receive gynecological exams for personal or health reasons. With more potential options for screening, Dr. Kuhn explains, more women are likely to get screened.

The researchers are now preparing to launch a study in Cape Town to evaluate the effectiveness of a new protocol for preventing cervical cancer. If a woman has a positive HPV DNA test result, she will be offered cryosurgery to destroy any abnormalities, thus sidestepping colposcopy completely. The cryosurgical procedure involves freezing the top layer of cervical tissue and can be performed by a trained nurse practitioner. Under optimum, developed-world conditions this procedure is safe and effective, and part of the purpose of the trial will be to determine how well and safely it works in South Africa. The team hopes to enroll 6,000 patients.

Resources for more information about these topics

Cord Blood Transplants

Dr. James H. Garvin Jr., Clinical Director,
Pediatric Blood & Marrow Transplant Program,
Columbia-Presbyterian Medical Center
Phone: (212) 305-5872
Fax: (212) 305-5848
E-mail: jhg1@columbia.edu

New Self-test for Cervical Cancer

Dr. Thomas Wright, Department of Pathology,
College of Physicians & Surgeons
(212) 305-1993

Down Syndrome Tests

FASTER trial
<http://www.firsttrimester.org>
(212) 305-FAST (3278)

Atypical squamous cells of undetermined significance from the cervix. HPV testing could be valuable in distinguishing benign and precancerous changes in cervical cells like these.

C L I N I C A L A D V A N C E S

Diagnosing Down Syndrome Earlier

Two new and non-invasive screening tests have the potential to identify Down syndrome in the first trimester of pregnancy, and new P&S recruit Dr. Mary D'Alton is leading a large clinical trial to determine whether they are better than the current second-trimester "triple screen."

"It is crucial that we carefully evaluate first trimester screening, as it is already creeping into clinical practice," says Dr. D'Alton, director of maternal and fetal medicine at the Sloane Hospital for Women and professor of clinical obstetrics and gynecology. One of the novel tests, called nuchal translucency (NT), uses ultrasound to measure the thickness of the fold at the back of a fetus' neck. Although studies of NT in Britain have shown that the test is 80 percent sensitive for identifying fetuses with Down syndrome, Dr. D'Alton says, these results have not been replicated elsewhere.

Doctors need training and experience to be able to accurately perform the NT measurement, and up-to-date ultrasound equipment also is required. "What may happen is that some physicians who are inexperienced will perform NT," she says, leading to many normal fetuses being identified as being at risk for Down syndrome. "The consequences of doing this improperly can be pretty significant."

Dr. D'Alton is currently recruiting patients for the First And Second Trimester Evaluation of Risk—FASTER—trial, which will enroll 60,000 pregnant women over two years at hospitals in New York, Boston, Rhode Island, Michigan, Colorado, Utah, Texas, and Seattle. The NIH and the National Institute of Child Health and Human Development have backed the trial with a \$10 million, three-year grant.

The FASTER trial will compare the NT exams and the maternal serum markers PAPP-A and BhCG, obtained between the 10th and 14th week of pregnancy, with the "quad" screen, a maternal serum screen performed at 15 to 16 weeks. The quad screen consists of the traditional triple screen plus Inhibin A. The standard triple screen is 65 percent sensitive for detecting Down syndrome. Some studies have found that adding inhibin levels as a marker for Down syndrome in the second trimester gives a 75 percent detection rate, Dr. D'Alton notes.

Women with a positive result for either set of screening tests will

meet with a genetic counselor and be offered the option of having amniocentesis. Women whose NT exam suggests an abnormality also will be counseled to have another ultrasound at 20 weeks to check for malformations of the heart and other birth defects.

Dr. D'Alton is a leader in obstetric ultrasound research. Columbia recruited her and her colleague, Dr. Fergal D. Malone, co-principal investigator of the FASTER trial, from Tufts University in Boston in 1999. Both received their medical education in Ireland, Dr. D'Alton at the National University of Ireland in Galway and Dr. Malone at University College Dublin. Dr. D'Alton was professor of obstetrics and gynecology and interim chair of the department at Tufts, where she had been since 1988. She has twice won the Prize Paper Award from the Boston Obstetrics Society (in 1989 and 1996) and has published dozens of articles on prenatal diagnosis and management and complications of multiple pregnancies.

Dr. Malone, assistant professor of obstetrics and gynecology, directs perinatal research. He has worked with Dr. D'Alton since 1993, when he arrived at Tufts as a resident in obstetrics and gynecology. Dr. Malone published two papers on NT sonography in *Seminars in Perinatology* in 1999.

An effective first-trimester screening exam would be beneficial to potential parents, observes Dr. D'Alton. "It is very difficult for families to be almost halfway through the pregnancy before finding out if their baby has Down syndrome," she notes. If the earlier test did become the standard of care, women shown to be at risk of carrying a Down syndrome fetus could have chorionic villus sampling (CVS) to provide an accurate diagnosis. CVS can be performed safely at 10 to 13 weeks, while perform-

ing amniocentesis this early is not considered safe.

The Columbia team has a web site on the FASTER trial at <http://www.firsttrimester.org>. The site provides detailed information for potential participants, describing what they can expect and where they can enroll. Physicians can call 212-305-FAST to enroll patients in the trial, which is open to all pregnant women at least 16 years of age who are carrying a singleton pregnancy of less than 14 weeks gestation, have not had a fetal reduction, do not plan to have CVS, and have not already had an NT exam in their current pregnancy. Women do not need health insurance to participate in the trial, and assistance is available in English and Spanish.



The arrow indicates the thickness of the fold at the back of the neck that nuchal translucency measures in a novel approach to identifying Down syndrome.

A Journey to the Past as Present

By Stevan M. Weine '87

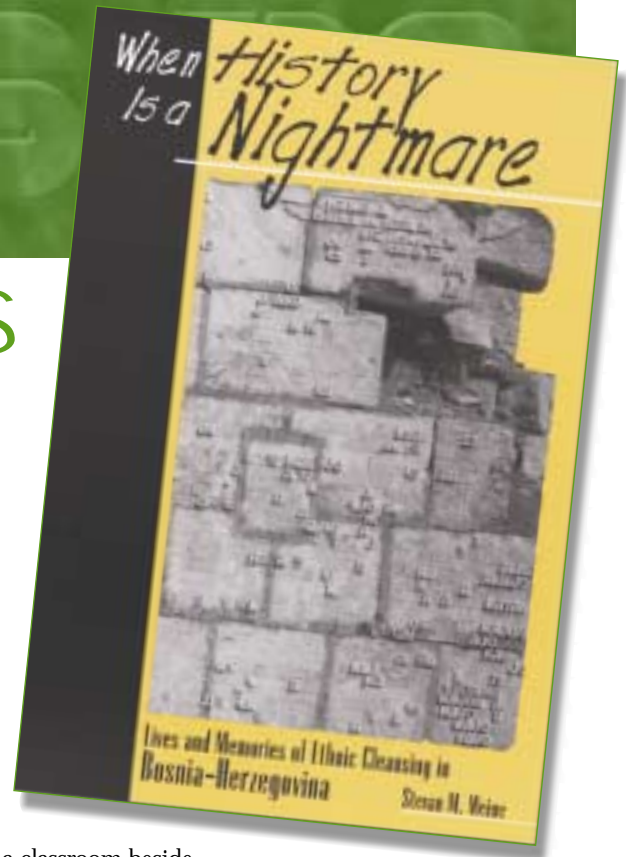
Excerpt from "When History is a Nightmare: Lives and Memories of Ethnic Cleansing in Bosnia-Herzegovina." Copyright © 1999 by Stevan M. Weine. Reprinted by permission of Rutgers University Press.

It is January 1996 in Varazdin, two hours west of Zagreb. A dilapidated compound by the railway station serves as a camp for 800 Bosnian refugees. I am standing in a muddy square that is framed by four long buildings where they stay, three or more families to a room. The refugee boys make that square their playing field, as they have for the past several years. For them, history is that bleak compound, their youth a single soccer match of scoring goal after goal on one another without keeping count. People are still talking about what happened the week before; dozens of families got on buses for Bosnia, the first to be repatriated after Dayton. I watch the boys' spirited play, their bodies quickening to the whirling ball in the frozen mud. Someday they too will get on the buses along with their mothers and sisters. Where to? What will they find? What kind of life?

* * *

It is June 16, 1904, in James Joyce's "Ulysses." Stephen Dedalus stands in a classroom beside his elderly boss, Mr. Deasley, as their students romp outside

History, Stephen said, is a nightmare from which I am trying to awake.¹



About the Author

As a psychiatrist just launching his academic career at Yale, Stevan Weine was contacted by a refugee resettlement agency for help in coordinating mental health initiatives for Bosnians en route to Connecticut. He answered the call and conducted the first studies to document the mental health consequences of ethnic cleansing. He later worked with Bosnian and Croatian colleagues to form the Project on Genocide, Psychiatry, and Witnessing at the University of Illinois in Chicago. The project is a multi-professional collaborative group engaged in inquiry while helping people and organizations interested in helping people.



Stevan Weine, the author

He has treated more than 400 Bosnians, established an oral history archive, and worked and traveled extensively in Bosnia. "When History is a Nightmare" came out of his work with and for ethnic cleansing victims. Dr. Weine is principal investigator of the National Institute of Mental Health-funded research study, "A Prevention and Access Intervention for Survivor Families," which investigates the Bosnian CAFES (Coffee and Family Education and Support) and Kosovar TAFES (Tea and Family Education and Support) multi-family group interventions.

A 1987 graduate of P&S, Dr. Weine credits his P&S education for teaching him both clinical and scholarly excellence and social engagement. The grandson of Eastern European Jewish immigrants, Dr. Weine chose to focus his academic psychiatry career on refugees after working with Bosnians. The work that he began with Bosnians has since expanded to address the people of Kosovo, the latest victims of ethnic cleansing.



PHOTO BY STEVAN WEINE



PHOTO BY STEVAN WEINE

The theater at Vrace, the memorial for World War II dead in Sarajevo

All trauma mental health professionals must feel the pull toward Bosnia, with its epidemic of trauma and the need for effective interventions. As one of these professionals, I am concerned about posttraumatic stress disorder and its treatment, especially for those Bosnians right here in Chicago. Yet it is not through the prism of PTSD work that I make contact with the Bosnia that matters most to me. Something else has me in its tow. Is it that I want to work for them in the face of the crime of genocide perpetrated against them and the overwhelming suffering they face? Yes, call this advocacy. But still there is something more.

Is it that through Bosnia, I am able to make contact with my Eastern European grandmother Kate and what she asked of me at 23? Then I

was so preoccupied with medical studies, New York, and my desire to do something and become someone. Did she really believe that I had forgotten? I would not have disagreed, but there was never enough time in my busy life to worry about all that. And we did not really talk enough of it in my family to help me know. Yet now, a truth is evident in the very fact of my having chosen to work with Bosnians. It tells me that my grandmother's question remains a central part of my life. Although I have not really answered it, nor have I forgotten.

* * *

What so intrigues me about Bosnia is that it is a landscape so palpably alive with memories and with intense dilemmas over how to live on memories². Here I can pursue the practical and moral questions that fascinated me as a student of history and literature: How does one live after disaster? How does one find meaning, goodness, and "the milk of human kindness" in the wake of evil and tragedy? In Bosnia today, one finds the totally confounding juxtaposition of the overwhelming failure of governments and collectives to live in peace, but also the utter strength and courage of individuals who survive and continue to nourish a sense of humanity.

And one finds families trying to find a way to absorb historical change and transcend generational boundaries. B.'s parents taught him that he could be his own man and did not need to worry about history. It's what I too was taught, half a world away. Yet somewhere in each of our backgrounds, there is another message, one that says this history must not be forgotten. For B. and his generation in Bosnia it took visitation and ruin from the nightmare of genocide and war to wake them out of their slumber and to teach them about this other history. My family has had the immense good fortune to be spared such catastrophe, and I the extraordinary privilege to be able to learn through entering into the Bosnian historical tragedy from the outside—to help them and to study and write about it.

* * *

In the classroom Stephen Dedalus daydreams.

From the playfield the boys raised a shout. A whirring whistle: goal. What if that nightmare gave you a back kick? (p. 35)

* * *

It was Irish history that bogged Stephen Dedalus down; however, his instantaneous reflection illuminates a historical truth about the Balkans and post-communist Europe. Ethnic cleansing in Bosnia is the back kick to Europe at the end of the 20th century. Just when the continent was looking up, with the total collapse of Soviet communism and the progressive development of the European Community, came this unexpected blow. Just a few short years after the streets of Prague rang with the jingling keys and merriment of the Velvet Revolution, the streets of Sarajevo shuddered under snipers' bullets and rocket shells, and several million Bosnian people were forced from their homes.³

The Balkan Peninsula clenched and snapped, delivering a swift kick to the underbelly of Western civilization just before the end of the millennium. History had supposedly been preparing us for something else. Not for a nightmare's back kick, but for celebration when communism fell. Longstanding dreams of Western-style democracy and a market-driven economy were finally to come true across all of Europe. It seemed history had taught us to think that we would never again be caught as passive bystanders to a European genocide. It was even said to signal "the end of history."⁴ But back kicks don't hit you when or where you expect them. Such is the melancholy of history.

* * *

At Vrace, the memorial for World War II dead in Sarajevo, there was a theater where citizens came to watch the state's films of that war. No one visits there any more. Bosnian Serb forces held it throughout the siege, taking advantage of its lofty perch over the city to launch shells and snipe on the people below. They left behind their shells, tin cans, and magazines. They even put up two basketball hoops, turning one of the courtyards into a full court (for shooting hoops after shooting Sarajevans?). Stone walls once adorned by small stone letters spelling the names of thousands of the prior war's dead are partially or completely stripped. The force of the explosions and vandalism



PHOTO BY STEVAN WEINE

Vrace, 1996

knocked many of the letters down to the ground, where they lie in small piles. A place where memory was once tenderly enshrined is now all fragments, garbage, and scatter. Still, there is a beauty to it. I come often with my camera to take photos.

This time someone has cleared away some debris and I find it is possible to make my way up the stairs and to enter the theater itself, with its fire-charred rows of auditorium seats. Hard to believe that this was once the state's hallowed space, where countless schoolchildren and weekend strollers came to view the films that gave them the official Titoist view of World War II. That history is now in total ruin. This Vrace Memorial is itself a victim



PHOTO BY STEVAN WEINE



PHOTO BY STEVAN WEINE

Grbavica florist

of the history it tried to conceal behind the historical myths that marched across its screen. Being here feels like standing inside an Anselm Keifer canvas.⁵ I have the sense that a new history is written all over this place. But

what immense work it will take to piece it together and to tell it! This book is barely a beginning. I hear the Bosnian kids playing soccer on the ruined promenade just below.

* * *

The list of what Bosnia needs to move on is far too long. In 1995, the Carnegie Endowment sponsored the Second International Commission on the Balkans and published its report in a book, "Unfinished Peace."⁶ The commission recommends against partitioning Bosnia-Herzegovina, which it fears is likely to result in annexations to Serbia and Croatia, and a non-viable state for Bosniaks. Rather, the commission argues for "promoting re-integration of a truly multi-ethnic Bosnia" and calls for all the measures that they deem necessary toward that end. They argue that the international community must put forth sufficient will and means for security, reconstruction and development, democratization, and protection of minorities. They call for the European Union to sponsor trade and economic agreements that aim toward the long-term goal of cooperation among Balkan states. They recommend that the international community make both Croatia's and Serbia's desire for normalization of relations and full

integration into the international community absolutely contingent upon compliance with Dayton provisions—including return of refugees, arrest of war criminals, rights of ethnic minorities, and democratic elections. I do not think that they nor anyone involved harbors any



illusions that this will be an easy struggle or a linear path. All are discovering that it is far easier to destroy a society than it is to rebuild one.⁷

What I have been wanting to know is what new sense of history is needed to support the project of making a new multi-ethnic Bosnian state? Eventually this new Bosnia will create new theaters of memory where it will teach its citizens their history.⁸ The project of building peace, openness, and democracy in Bosnia-Herzegovina will need a new history that supports this system of values. However, this new history has no choice but to be born out of current conditions, and it must meaningfully address the difficult new realities. It is the presence of those realities that I feel in Vrace, as well as the immense difficulties of transcending them. And yet Bosnians have no choice but to evolve and redefine their sense of themselves in history.

Notes

- ¹ There is perpetual controversy over the definitive Ulysses text. I refer to the one that I used during a college literature course. James Joyce, "Ulysses" (New York: The Modern Library, 1914), p. 35. See also Stuart Gilbert, "James Joyce's Ulysses" (New York: Vintage Books, 1955).
- ² I owe much to Timothy Garton Ash's interweaving of the personal and historical in his magnificent "The File: A Personal History" (New York: Random House, 1997).
- ³ Timothy Garton Ash, "The Magic Lantern: The Revolution of '89 Witnessed in Warsaw, Budapest, Berlin, and Prague" (New York: Random House, 1990).
- ⁴ Francis Fukuyama, "The End of History and the Last Man" (New York: Avon, 1979).
- ⁵ Anselm Keifer is a leading contemporary German artist whose canvases explicitly confront the Nazi legacy. See Corinne Robins, "Your Gold Hair, Margarete," *Arts Magazine*, January 1989, pp. 73-77.
- ⁶ "Unfinished Peace: Report of the International Commission on the Balkans" (Aspen Institute Berlin: Carnegie Endowment for International Peace, 1996). Ironically, the Carnegie Endowment had also sponsored the first such commission in 1913. See the republication of the report, "The Other Balkan Wars" (Washington, D.C.: Carnegie Endowment for International Peace, 1993).
- ⁷ Even before the 1996 federal elections were held, commentators referred to them as the war's last battle. They claimed that rather than building common democratic institutions, the elections were consolidating power in new governmental structures that only deepened the ethnic nationalistic divisions and furthered the partitioning of Bosnia. Yet the fact the elections were held was one step along the path toward democratization and stabilization.
- ⁸ See Raphael Samuel, "Theatres of Memory" (London and New York: Verso, 1994): "Memory, so far from being merely a passive receptacle or storage system, an image bank of the past, is rather an active, shaping force; that it is dynamic . . . that it is dialectically related to historical thought, rather than being some kind of negative other to it."

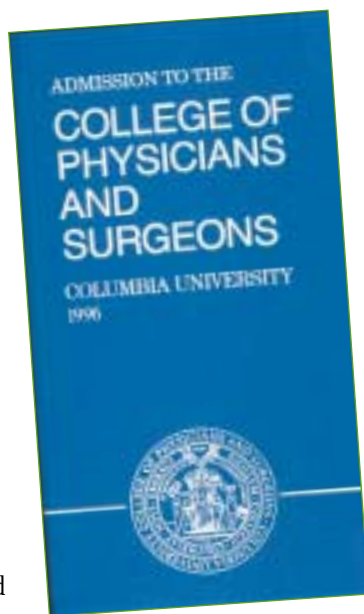
An Admissions Journey Begins

By Michael Hyde

As recently as a few years ago, P&S did not market itself to applicants because it had never failed to attract the best prospects for medical school. Talented applicants tend to apply to all of the elite institutions, and P&S is always regarded among the elite. But when the number of prospects applying to all medical schools began to drop in the last half of the 1990s, the elite schools had to share a smaller group of individuals. For the first time, P&S chose to take an active role in retaining the cream of the crop.

P&S for years followed a passive approach in filling its classes. The school enjoyed a well-earned reputation for excellence, and it let that reputation speak for itself. But the young men and women applying to medical schools today have grown up in an age of multiple sources of instant information. These students have a world of virtual tours, sample applications, and the answers to "frequently asked questions" available to them via a computer that usually sits a few feet from their beds. The new fruits of technology gave P&S both cause and the means to market itself actively to prospects.

"Today's medical student applicant is a sophisticated multi-tasking college senior or



The admissions brochure used until new materials were developed for prospective students

graduate accustomed to sophisticated recruitment tools of our peer medical schools," says Dr. William A. Polf, former deputy vice president for External Relations and Strategic Programs. "Our methods for providing information about

P&S lacked the ability to rise above the noise."

At the forefront of this change in strategy has been Pat Tobiasen, administrative coordinator for admissions, who is the first contact for students seeking information about P&S. (Her supervisor, Dr. Andrew Frantz, professor of medicine and associate dean for admissions, concentrates on the student selection process.) "As part of my job I spoke with many students and prospects on a daily basis," Ms. Tobiasen says. "I got a feeling from those conversations that we were about to start falling behind our competitors. Like any other business, we had to market ourselves to the customer."

She teamed with the Office of External Relations to develop a strategy that would capture Columbia's image in the eyes of P&S applicants. In addition to raising





Pat Tobiasen, a longtime staff member in the the P&S Admissions Office, pushed for the admissions marketing campaign. She is shown here with students planning Revisit Day 2000. From left are Laura Cha'01, Candice Chen'01, Cindy Chen'02, Ms. Tobiasen, and Marshall Kuremsky'03.

awareness of academic strengths, goals included portraying the culture of student life at a leading medical school located in one of the world's major cities. To do this, admissions sought to expand its literature, explore other media (including an informational video and interactive web site), and host a revisit day open to all students accepted by the school.

One Brochure is Not Enough

Only a few years ago, potential students who contacted admissions requesting information on P&S were sent one small, 16-page brochure. This guide was printed in one color—blue. It contained no photos or illustrations except for the P&S seal on the cover. It contained all the basic information a prospect needed to know to apply and attend, but it did not come close to conveying the full P&S experience.

“The old brochure provided a lot of valuable information, especially on application procedures, which is very important,” says Meredith Finnin, communications specialist for External Relations, “but it offered very little insight in the way of student life, curriculum, even what it is like to live in New York City, which prospective students are also very interested in.”

Ms. Finnin worked with

Ms. Tobiasen and the admissions office on its remodeling. Her first step would be to replace the brochure with an array of publications that would greet prospects with the excitement and drama befitting application and acceptance to an Ivy League medical school in one of the world's greatest cities. The one-color comprehensive brochure was updated as a general brochure for initial information requests. It includes a postcard to request an application. Individuals who submit the postcard also receive a view book, which provides more detail on the school, its curriculum, and student life. Also available is a detailed pamphlet covering minority student programs. All new publications make heavy use of photos and quotes from current students.

Not only were these publications written and designed to portray P&S in colorful detail, they also took on a completely revitalized theme. Instead of one brochure dictating information about P&S, three diverse publications invite a prospect to step into the shoes of a student and experience life at P&S.

“While working on creating these materials, I tried to envision the student's point of view,” says Ms. Finnin. “I spoke to several current students to determine what they and their peers had been looking for during their application process. I think if I were applying to P&S, I would find these materials useful and attractive.”

Students Make The Best Sales Force

While the new publications can offer a glimpse of what it is like to be a student at P&S, the best insight will always come from the current students



A general brochure (left) is sent to everyone who requests it. It includes a postcard to request an application. Students who request an application receive a view book (center) and related information about P&S. The minority students program is described in its own publication (right).

A video of P&S for student recruitment lets current students talk to prospective students. Meredith Finnin, right, and Gay Jean Triplett, video production manager in Biomedical Communications, are shown here in the editing suite putting the final touches on the video.



themselves. These varied and intriguing points of view have been captured in a video and put to work for admissions each time it is viewed by a P&S prospect.

Since the creation of the school itself, the students have always been the most valued resource at P&S. What better way to market this institution than allowing prospects to see and hear current P&S students talk about their own experiences? Created under the same title as the view book, the VHS version of "Your Journey Begins" takes the viewer on a tour of the campus through the eyes of current students. Interviews and sound bites allow students to share their experiences, including reflections of when they too were prospective students contemplating P&S and other schools.

"All of the new materials are excellent, but I think the video is the most spectacular," says Dr. Ronald Drusin, associate dean for curricular affairs. "What makes the video so special is that it features our students. They are the ones who best demonstrate the qualities of a P&S education."

"It's one thing for a prospective student to read a brochure, but it's a lot more real and credible when they are hearing it from people they can identify with and who ostensibly share their concerns," says Ms. Finnin.

The video was created to be part of the admissions tour program. All applicants who are invited to P&S are given a tour of the campus, and a viewing of the video has been incorporated into this visit. The video also is sent to students who apply from outside the New York area and can't easily schedule a tour. But reaction to the video has been so positive that its use is growing.

"Two faculty members have asked for copies to show at conferences as part of their presentations about medical schools," says Ms. Tobiasen. "It has been used by the Office of Minority Affairs and some students who visit undergraduate schools to talk about P&S."

One Last Look Before Deciding

Just in case the updated materials were still not enough to leave a lasting impression, Ms. Tobiasen created the final push in marketing P&S to its recruits by hosting a revisit day to all accepted applicants. In the past, only students accepted to the M.D./Ph.D. program and minority students accepted to P&S were invited to revisit the campus. Ms. Tobiasen decided to expand the idea to invite all accepted students back for a one-day event-filled tour of the campus.

This group was given a detailed tour of the medical center campus and its surrounding neighborhood. The tour introduced them to their new home away from home for the next four years. The tour was expanded to include an oft-overlooked bonus to

attending P&S—Columbia University's Morningside Heights campus. The group visited the downtown campus and they were reminded that part of the medical school's modern curriculum includes a section in the humanities. The day culminated with a special reception.

"We have had very positive feedback from Revisit Day 1999," says Ms. Tobiasen, "so much so that this year's event will span two days of activities. I believe revisit day together with the new material born of our marketing plan have been the direct cause for fewer withdrawals from the acceptances to the class that entered in 1999."

Finishing Touches

All these changes in admissions recruitment—the publications, the video, and revisit day—marked the first two years of a three-year plan. The next and final year promises even more positive changes.

Ms. Tobiasen and Ms. Finnin are working on a revamped web site that will bring vital information to students everywhere who are interested in applying to P&S. Their goal is to make the site efficient, modern, and easy to use and to include an online application and virtual tour.

"We are including lots of photos and portions of the video," Ms. Finnin says of the project. "We are also trying to make it more interactive by adding a bulletin board, or newsgroup, where prospective students can post questions. The admissions staff will either answer these questions or route them to students who are familiar with that particular area."

"I'm eager to see the web site develop," says Dr. Drusin. "It will provide even more information on P&S, and it will also give prospective students a true feeling of being a student at Columbia."

Ms. Tobiasen will expand this improvement mission across the hall from her office by remodeling the Admissions Interview Suite. "It is a long time coming," she says.

"People ask me why I've spent so much time and energy on revising our applications materials," Ms. Tobiasen says. "I've been here a long time. I care about P&S and I've encountered so many students through the years to catch their enthusiasm. I just want P&S to put its best face forward and not be afraid to brag about how good it is!" Thanks to her and others, the secret is out.

Making Maps, Tracing Pathways: The Columbia Genome Center

By Anne Harding



PHOTO BY RENE PEREZ

With an entire map of the human genome expected to be completed by the end of the year, what's left for genome researchers to do?

Plenty. During the 1990s, Columbia researchers contributed to the Human Genome Project by completing a fine, annotated map of chromosome 13. By the end of the decade they had shifted their focus to identifying genes associated with physical and mental illnesses and tracing the pathways through which they interact to cause these conditions. The Columbia Genome Center greeted the new millennium with an impressive array of discoveries in the genetics of disease to its credit and the technology and personnel to make many more.

In the past year alone, Dr. Conrad Gilliam and his colleagues identified the genetic mutations responsible for causing retinitis pigmentosa and progressive epilepsy with mental retardation. Dr.



PHOTO BY JONATHAN SMITH

Conrad Gilliam, co-director of the Columbia Genome Center

Riccardo Dalla-Favera, professor of genetics and development in pathology, discovered genes associated with multiple myeloma. Genome center research scientists Dr. James Russo and Dr. Xiaoyan Qu, in collaboration with Dr. Timothy Bestor, associate professor of genetics and development, helped to identify the gene responsible for Immunodeficiency, Centromere instability and Facial anomalies (ICF), the first human genetic syndrome caused by defective DNA methylation.

Researchers have now begun to look at exactly how genetic malfunctions produce disease. They want to elucidate the steps that take place once a mutated gene is expressed (or fails to express itself) and find out how the function of other genes is affected. To identify these pathways, the researchers are employing advanced gene sequencing and analysis technology, highly sophisticated statistical genetics and informatics techniques, and good old hypothesis-based research with mice, humans, and other organisms. "The idea

of sorting out pathways is something we were on to very early," notes Dr. Gilliam, who shares the directorship of the genome center with Dr. Isidore S. Edelman and will become sole director in July.

The center's researchers use resequencing as the starting point for their search. Resequencing involves sequencing the genomes of several different individuals with a particular illness and looking for genetic similarities among them, as well as genetic differences from healthy individuals. This approach is only practical with very fast, accurate, and cheap sequencing technology, as it requires thousands of sequencing reactions. The center now has the capacity to perform resequencing and interpret the massive amounts of data it produces.

Columbia has assembled a dynamic, multidisciplinary team of genome researchers, including leaders in artificial intelligence, the chemistry and mechanics of gene sequencing, basic science, and clinical medicine. Established officially as a university-wide enterprise in 1995, the center stands on the shoulders of the coalition of P&S researchers — from nine laboratories in all — who had been working on chromosome 13 since 1988 under the joint directorship of Dr. Edelman, Robert W. Johnson Professor Emeritus, and Dr. Argiris Efstratiadis, Higgins Professor of Genetics and Development. The founding of the Columbia Genome Center marked the expansion of the university's genome research from a focus on physical and genetic linkage maps to large-scale integrated mapping, sequencing, and computational analysis.

The center has been supported by Columbia, NIH grants, and private funds, including substantial grants from the Sulzberger Foundation. The center has been officially renamed the Judith P. Sulzberger, M.D., Columbia Genome Center to honor Dr. Sulzberger, a P&S graduate who has been a strong supporter of the center.

In early 2000 the center marked an important milestone: All of the researchers within the six sections of the center are now in one place, the Russ Berrie Medical Science Pavilion on St. Nicholas Avenue. The six sections are molecular genetics, physical mapping and gene expression, DNA sequencing and chemical biology, cancer genetics, genomic informatics, and molecular bioinformatics.



PHOTO BY JONATHAN SMITH

The DNA microarray machine can identify which genes are expressed, and to what degree, in a given biological tissue sample.

Gene sequencing machines translate these colorful bands into the DNA bases of individual genes.

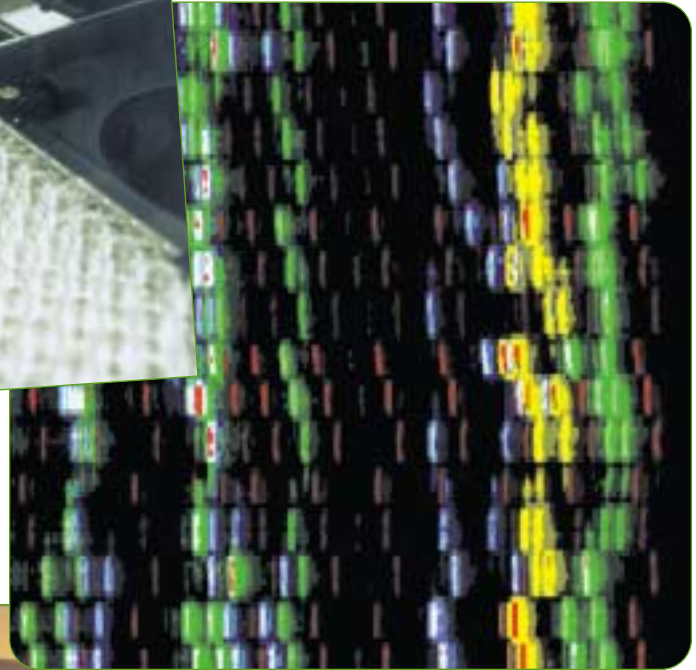


PHOTO BY RENE PEREZ

Two other sections, cytogenetics and molecular bioinformatics, are affiliated with the center.

The center's capacity to sequence genes has increased five-fold over the past three years. Next on the agenda: increasing the speed of gene sequencing by another order of magnitude and cutting costs tenfold.

"The technology has leaped ahead on one hand because of informatics, the ability to analyze data much more rapidly on computer software," says Dr. Gilliam. Also, he adds, the chemistry of labeling nucleotides has become much more specific, allowing



PHOTO BY RENE PEREZ

researchers to use smaller amounts of DNA to run samples.

Columbia has recruited a leader in DNA sequencing chemistry: Dr. Jingyue Ju, who directs the DNA sequencing and chemical biology laboratory at the center and also is associate professor of chemical engineering and applied chemistry. He came to Columbia in 1999 from Incyte Pharmaceuticals, where he was director of chemistry and assay development. While at the University of California at Berkeley, Dr. Ju and his colleagues developed a system of energy transfer fluorescent tags that both intensified and distinguished the fluorescent signals emitted by the four labeled DNA bases, making it possible to “read” sequences more efficiently. This increase in signal intensity has precipitated several other advances in genome sequencing technology, including the development of 96-capillary gene sequencers.

First introduced in 1997 by Molecular Dynamics, now part of Amersham Pharmacia Biotech, the 96-capillary gene sequencers have a throughput of a half-million base pairs per instrument per day and represent a major advance in the speed and accuracy of gene sequencing. Columbia now has two 96-capillary gene sequencers, through a collaboration with Amersham Pharmacia Biotech. In the original generation of sequencing machines, DNA samples were read by a laser scanner as they passed across a plate of slab gel containing “lanes.” The first machines had 36 lanes, while the newest generation has 96 lanes. The new machines employ 96 capillary tubes for this purpose. While it takes seven to 10 hours for DNA samples to run through a slab gel machine, the samples pass through the capillary tubes filled with viscous gel in two and a half hours, making it possible to perform six to eight sequencing runs a day. The capillary system also eliminates the “tracking” necessary with the slab gels. In slab gel readings, DNA migrates into a different lane or is read as doing so, and the technician must carefully review the reading and correct for this, which can take a half hour to an hour for each gel plate. But in the capillary machines, each sample is contained in its own tiny tube, so no migration occurs and the tracking and analysis are automated.

The Columbia Genome Center and the Naomi Berrie Diabetes Center acquired another important new piece of equipment, a

DNA microarray machine, that will strengthen the center’s efforts to understand how genes interact to produce disease. These machines can identify which genes are expressed, and to what degree, in a given biological tissue sample. The sample in question is placed on a slide dotted with thousands of tiny fragments of complementary DNA. The cDNA fragments will “light up” when messenger RNA finds them, indicating that a particular gene is being expressed. Computer images of the slides then use false colors to represent the degree of expression (black indicates no expression, followed by blue, yellow,

green, red, and, finally, white for the most intense gene expression). The machine allows researchers to investigate the simultaneous expression patterns of up to 20,000 genes.

The center uses this technology to investigate molecular pathways involved in copper metabolism. In 1994, Dr. Gilliam discovered the genetic mutation responsible for Wilson’s disease, a condition in which toxic levels of copper accumulate in the body. Now, he and his colleagues have discovered how to “turn off” a transcription factor they believe is responsible for activating genes involved in copper metabolism, and they are using the array to compare gene expression in tissue samples in which the factor is turned off and in healthy genes. This approach is also possible with many other conditions. Columbia is the second metropolitan New York medical school to have a microarray facility.

Dr. Anthony Ferrante, a postdoctoral student, has overseen the establishment and organization of the microarray center since the machine’s arrival at Columbia in May 1999 and began producing the first arrays last fall. To raise awareness of the microarray machine among faculty and students at P&S and the downtown campus, Dr. Ferrante and his colleagues held a series of seminars on microarray technology and are planning a course in June on the “nuts and bolts” of microarrays, as well as a New York area microarray meeting in the fall. Dr. Ferrante is using microarrays to study how leptin is involved in obesity and diabetes, comparing tissue samples from the hypothalamus of knock-out mice that don’t produce leptin and their lean siblings.

Researchers are hoping to build on microarray technology as they use it, combining chemistry and computers. Dr. Ju plans to improve on gene and protein expression detection technology, to make it possible to detect rarer genes. He notes that coupling new technology development with basic science will eliminate the “bottleneck” that can occur when researchers are only working with existing, established technology. Dr. William Noble Grundy, assistant professor of computer science, has developed algorithms that will recognize patterns of gene expression in microarrays. Computers trained to identify these patterns could one day make it possible to “read” a person’s tissue sample to determine whether he or

she will respond to a particular drug, for example, or gauge prognosis for recovery from a particular disease.

Dr. Ju plans to develop additional tags, both fluorescent and other chemical labeling schemes, for different cellular components. He is also developing biotinylated terminators, which eliminate "noise" in readings of genes and could make it possible to read DNA sequences with mass spectroscopy. This so-called solid phase DNA sequencing chemistry would be a new paradigm in sequencing technology, making digital analysis of data and identification of gene sequences possible.

Center researchers continue to make major strides in the informatics of genome research. Dr. Russo points out that as he and his colleagues begin to delve into how multiple gene interactions cause disease, the statistical analysis of the information gathered with resequencing must become more subtle and precise. "It's very complicated because associations are not likely to be clear-cut," he explains. "If there are 15 genes involved in a particular disease, the power of statistical association for any one of them is less. That's the challenge in this approach." Finding individuals with particularly severe cases of a disease is one way to address this problem, he adds.

Statistical analysis of complex genetic traits is headed by Dr. Joseph Terwilliger, assistant professor of neuroscience and an internationally recognized leader in genetic linkage analysis.

Dr. Russo, who is associate head of DNA sequencing and chemical biology, has been collaborating with Dr. Howard Shuman, professor of microbiology, in an investigation of the Legionella genome, which has 4 million bases and approximately 4,000 genes. Dr. Shuman is searching for the genes Legionella uses to infect its hosts, particularly those it uses to invade macrophages and enter water-dwelling amoebas.

Dr. Russo, Dr. Shuman, and other P&S faculty collaborate with one another and with scientists around the globe using a growing treasury of genetic information that is freely shared among researchers and maintained at the National Center for Biotechnology Information. For example, it's possible for Dr. Russo to check a specific sequence he has located in Legionella against similar sequences in other organisms to determine whether others have found a particular gene in another organism and identified its function.

Dr. Grundy has developed a tool based on models originally built for speech recognition that, given a particular protein, can search a database for other proteins that are evolutionarily related to it. He intends to work with scientists at the genome center to develop a tool that will look for genes within the genome itself, using a similar but much more complex approach.

Research into specific disease continues to be a major focus of

the genome center. The group in molecular genetics, a collaboration of pediatrics and medicine through the Naomi Berrie Diabetes Center, is focused on the use of genomic techniques to identify genes mediating susceptibility to obesity and type 2 diabetes. Dr. Rudolph Leibel, professor of pediatrics and medicine and co-director of the Naomi Berrie Diabetes Center, heads the molecular genetics effort.

As part of an international consortium that includes Oxford University and the Pasteur Institute, these studies involve detailed

comparisons of phenotypic variation in specific regions of both the mouse and human genomes. The informatics related to the project is coordinated at Columbia by Dr. Yong Chuan Tao, associate research scientist in pediatrics, who was recruited jointly by the diabetes and genome centers. Included in the collaboration are Dr. Stuart Fischer, research scientist and director of physical mapping at the genome center; Dr. Eftihia Tzilianos, research scientist; and Dr. Gilliam.

Collaboration between physicians and basic researchers at P&S has led to unique approaches to studying the genetics of various disorders, including mental illness, Dr. Gilliam says. "Panic disorders and stress disorders are

very well studied here at Columbia," he notes. Dr. Gilliam hopes to employ the mouse models of the conditioned fear response developed by Dr. Eric Kandel and his colleagues in his own research and is also recruiting human subjects for a study of fear. Together with Dr. Myrna Weissman, a professor of public health (in psychiatry), and Dr. Abby Fyer, professor of clinical psychiatry, Dr. Gilliam has designed an experiment in which people will undergo a conditioned fear test while being monitored for physiological changes, such as galvanic skin response and activity within the amygdala. Dr. Gilliam plans to find subjects at the tail ends of the continuum of possible responses — those with the most exaggerated fear response and those who respond the least — and sequence their genes.

Dr. Gilliam is collaborating with the advocacy group Cure Autism Now to investigate the genetics of autism. CAN has a database of 500 families each with two autistic children in its Autism Genetic Resource Exchange. So far, Dr. Gilliam and his colleagues have typed 140 of the families. He hopes to analyze this genetic information and collaborate with statistical genetics and neural networks experts to compare this information with the results of language and cognitive ability tests of the autistic individuals.



PHOTO BY REINE PEREZ

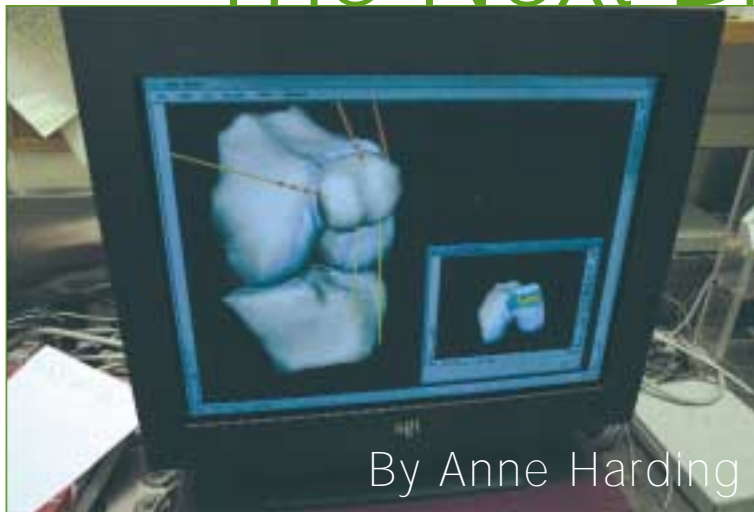
Biomedical Engineering:

The Next Big Thing

The time for biomedical engineering—a discipline heralded as the next big thing many times over the past several decades—has finally come, and Columbia is more than ready.

In December 1999, the Columbia Trustees approved creation of a Department of Biomedical Engineering in Columbia's Fu Foundation School of Engineering and Applied Sciences. The department awards undergraduate, master's, and Ph.D. degrees. P&S faculty and researchers are closely involved with the new department, teaching undergraduate and graduate courses in histology, physiology, and anatomy and collaborating with biomedical engineering faculty and students on an array of research projects. Students also will be able to earn joint M.D./Ph.D. degrees through P&S and the engineering school.

The department is the culmination of a process that began in December 1994, when Executive Vice Provost Michael Crow and David Austen, then dean of engineering, asked Dr. Van C. Mow to lead an effort to establish a biomedical engineering department at Columbia. With the strong support of the new engineering dean, Zvi Galil, Dr. Mow's effort was endorsed by both Morningside Heights and Health Sciences leadership. Dr. Mow had been recruited to Columbia in 1986 as director of the New York Orthopedic Hospital research laboratory, jointly appointed professor of orthopedic



By Anne Harding

The screen shows a computer model of a patient's knee with the attachments of muscles and tendons to the patella, which can be adjusted when simulating tuberosity transfer surgery. The orange lines are quadriceps muscle force components, and the yellow lines represent the patellar ligament. This model predicts which surgical strategy will produce the optimum result in terms of the knee's ability to bear weight and function properly.

bioengineering at P&S and professor of mechanical engineering at the engineering school.

Dr. Mow, now the Dicker Professor of Biomedical Engineering, got to work quickly by applying for a Whitaker Foundation Special Opportunity Award to help build a biomedical engineering department. The foundation is the largest private sponsor of biomedical engineering research and education in the

world. Columbia received the grant, which with cost-matching from the university allowed Dr. Mow to hire five tenure-track faculty members in biomedical engineering. Dr. Mow's department has since won a Biomedical Engineering Development Award from the foundation and recently submitted a preliminary proposal for a \$55.8 million Leadership-Development Award, which would allow Columbia to expand the program significantly.

Building on the strengths of both engineering and medical schools, Dr. Mow and his colleagues developed four academic tracks for undergraduate and graduate students in biomedical



Three biomedical engineering faculty who work closely with P&S faculty are Gerard Ateshian, seated, Andrew Laine, center, and Van Mow. They are shown working with the "virtual" knee arthroscopy model developed in the orthopedic research laboratory.

Engineering student Vincent Wang uses the orthopedic research lab's joint testing rig to evaluate a human shoulder prosthesis as Drs. Ateshian, Mow, Laine and Dr. Obinwanne Ugwonali, an orthopedics postdoc research fellow, observe.

engineering. The tracks are biomechanics, which includes orthopedics and cardiac mechanics; cellular and tissue engineering; biomedical imaging; and neuro-engineering.

The department also includes eight focused laboratories, each directed by a team of biomedical engineering and P&S faculty. Other efforts proposed include multidisciplinary work in functional MRI for studies of the brain, creation of a virtual heart, and development of computer-aided surgery. With the Leadership Development Award, Dr. Mow hopes to hire 10 additional tenure-track faculty members in biomedical engineering and staff. New offices and laboratories covering 31,000 square feet are planned for the Health Sciences campus and 30,000 square feet of new and renovated space are planned for the Morningside campus.

Dr. Mow envisions, within five years, a biomedical engineering department with at least 20 faculty members, 40 or more physician investigators, and 150 students and postdocs. Currently, the department has eight core biomedical engineering faculty members in the department, 16 affiliated faculty members (most from P&S), 21 graduate students, 27 students who will graduate with B.S. degrees in biomedical engineering this year, and 35 undergraduates who will finish in 2001. The number of students who both apply and are accepted to the program has been growing steadily.

Dr. Mow points to several factors that have contributed to the current surge in interest in biomedical engineering. One major factor is the limited time frame for private funding (the Whitaker Foundation plans to give out the remainder of its endowment—\$450 million and growing—to biomedical engineering projects by 2006). Also, the National Science Foundation and the NIH have taken steps to increase support for biomedical engineering research. The NIH created its Biomedical Engineering Consortium within its office of extramural research in 1997 and has given about \$700 million in funding for biomedical engineering research. The NSF established its Biomedical Engineering/Research to Aid Persons with Disabilities programs to support research in the field.

Similar confluences of private and public sector momentum created the great leaps in computer technology of the 1970s and the Internet, Dr. Mow observes. He expects biomedical engineering will be equally important.

Biomedical Imaging: A Historic Collaboration

Columbia has a long tradition in perhaps the oldest and most important biomedical engineering technique: radiology.

Dr. Mow, chairman of the new Department of Biomedical Engineering, points out that just months after Wilhelm Roentgen announced his discovery of the X-ray in late 1895, Columbia professor Michael Pupin and Thomas A. Edison made the first intensi-



PHOTO BY CHARLES MANLEY

fication screen radiograph. This was the first time that an intensifier screen was used in radiology, and it greatly reduced the amount of time that the patient (in this case, a New Yorker who had been hit with buckshot) had to be exposed to radiation.

About a century later, researchers at Columbia's engineering school and P&S are carrying on this historic collaboration, working together to develop dramatic and effective new ways to see inside the human body. Biomedical imaging is one of four academic tracks that both undergraduate and graduate students in biomedical engineering can choose from and the one that involves extensive collaboration with P&S faculty.

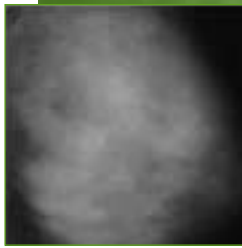
Dr. Andrew Laine, associate professor of biomedical engineering, is a computer scientist and director of Columbia's new biomedical imaging laboratory. He is working with P&S faculty on imaging technology projects in five areas: digital radiology, functional magnetic resonance imaging, ultrasound, PET imaging, and computed tomography.

"The challenges that we're facing today require the interaction of engineers and physicians," says Dr. Laine, one of six new faculty members recruited to the Department of Biomedical Engineering. "We're down to the point where in order to take the next steps, radiologists, basic scientists, and engineers need to join forces."

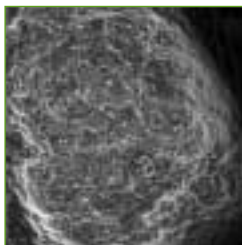
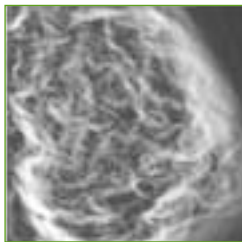
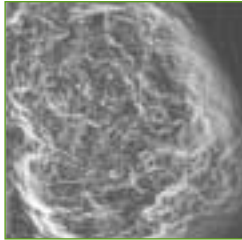
Digital radiography. Researchers collaborating on improving techniques for interpreting digital radiographs of the breast are Dr. Suzanne Smith, director of mammography in the Department of Radiology and associate professor of clinical radiology; Dr. Edward Nickoloff, chief of medical physics and professor of clinical radiology; Dr. Tova Koenigsberg, assistant professor of clinical radiology; Dr. Cory Singer, assistant professor of radiology; and Dr. Marc Brown, assistant professor of clinical radiology. One targeted



Van Mow, chairman of biomedical engineering, has a two-sided business card for Morningside and P&S locations.



Multiscale analysis is a powerful tool for detection and enhancement. Shown here are an original mammogram and finest, intermediate, and coarsest levels of analysis.



technique, known as multiscale wavelet analysis, uses scale to decompose the digital signals contained in an image, analyze and selectively emphasize certain signals within selected scales, and then recombine them. The team is focused on finding specialized detectors for microcalcifications, spicular lesions, and subtle masses. They will present their first clinical research using the new tools this summer at a meeting in San Diego.

Magnetic resonance imaging. MRI research faculty are Dr. Robert DeLaPaz, professor of radiology and chief of neuro-radiology; Dr. Edward Wu, assistant professor of radiology; Dr. Philip Alderson, Picker Professor and Chairman of Radiology; and Mark Perera, medical physicist. The team is working on developing more subtle and sensitive techniques for activation

detection in fMRI, using 3-D multiscale analysis. Because fMRIs are fairly “noisy,” dynamic activity is measured with difficulty. The team is working toward being able to capture the dynamics of activation as it occurs, where different areas of the brain are activated asynchronously. Current imaging techniques only capture one site of activation at a time. Detecting this information will be akin to making a recording of a symphony orchestra, rather than a recording of a soloist. These new fMRI techniques also will be useful for surgical mapping of the brain and neuro-engineering.

Ultrasound. Ultrasound researchers, Dr. Shunichi Homma, associate professor of medicine and director of the echocardiography service; Dr. Zheng Feng Lu, assistant professor of clinical radiology; and Dr. Jeff Holmes, assistant professor of biomedical engineering, use mathematical analysis based on “brushlet functions” to capture for the first time the dynamics of left ventricular volume from 4-D echocardiographic data. The team also has developed a method for interpreting ultrasound images useful for detecting fatty changes in the liver.

PET imaging. The main focus of this group, headed by Dr. Alderson, is quantitative imaging of the heart. Others in the group are Dr. Peter Esser, professor of clinical radiology, director of computing, and chief physicist in nuclear medicine; Dr. Steve Bergmann, professor of medicine and radiology and medical

director of nuclear cardiology; and Dr. Kenneth Nichols, associate research scientist in medicine. They have developed a technique for denoising PET signals to provide a clear image of blood flow throughout the heart. The heart muscle is spread apart and imaged as a thick ring (akin to a Mercator projection of the globe) and temporal blood flow in different sections is shown with remarkable clarity using weak radioisotopes.

Computed tomography. Dr. X. Edward Guo, director of the bone engineering laboratory and assistant professor of biomedical engineering, is working to develop a computer model of the microstructure within trabecular bones. This information is important in understanding fracture mechanisms in orthopedic patients. Dr. Laura Fayad, a radiology resident, is comparing methods of contrast enhancement computed from wavelet representations.

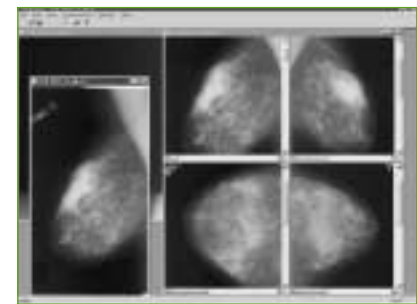
Biomechanics—Virtual Knees to Improve Function of Joints

Research under way in Dr. Mow’s laboratory is an elegant illustration of the applications of biomechanics. In association with Dr. Gerard Ateshian, associate professor of mechanical engineering and biomedical engineering, Dr. Mow and colleagues have developed a computer model that shows the stresses within the knee joint and how structures within the joint respond to these stresses. The model is based on precisely calibrated, highly detailed MRI images of the knees of cadaveric models and patients.

Tibial tuberosity transfer surgery, in which a bone-muscle attachment is moved to correct the tracking of the patella-femoral joint, has a success rate of about 65 percent. The computer model will allow a surgeon to test different surgical strategies for an individual patient—what will happen if the muscle is re-attached in a different way—to gauge how well his or her knee will work after the surgery.

The model is now complete, and the orthopedics team is seeking IRB approval to collect patient data to demonstrate the feasibility of using the model in planning surgery. The team is working with several surgeons, including Dr. J. Richard Steadman, chief surgeon for the U.S. Olympic ski team; Dr. Howard Kiernan, clinical professor of orthopedic surgery at P&S; and Dr. William Levine, assistant professor of orthopedic surgery at P&S, a specialist in sports medicine.

In the process of developing the model, the team compiled a precise topographical map of the thickness of cartilage lining the normal joint, which has several applications of its own. The computer model allows the user to “take apart” the joint and uses a



Contrast enhancement for digital mammography

Biomedical Engineering: A Timeline

- 1962:** Chemical engineering professor Elmer Gaden establishes the Committee on Biomedical Engineering to provide a forum for collaboration between P&S and School of Engineering and Applied Sciences faculty.
- 1974:** P&S physiology professor Dr. William Nastuk heads a universitywide Bioengineering Institute to improve access to bioengineering research for engineering students.
- 1978:** Dr. Richard Skalak of the Department of Civil Engineering and Engineering Mechanics assumes directorship of the institute.
- 1986:** Dr. Van C. Mow is recruited to Columbia as director of the New York Orthopedic Hospital research laboratory, professor of orthopedic bioengineering, and professor of mechanical engineering.
- 1988:** Dr. Skalak and his colleague Dr. Shu Chien leave Columbia for the University of California at San Diego, which has the National Research Council's No. 1 ranked program for graduate education.

- 1993:** Columbia President George Rupp's strategic planning initiative calls for increased collaboration among the departments of the university.
- 1994:** The Biomedical Engineering Steering Committee is established to promote interaction between engineering and medical faculties.
- 1996:** Columbia wins Whitaker Foundation Special Opportunity Award. Columbia appoints Dr. X. Edward Guo as assistant professor of biomedical engineering and mechanical engineering. Dr. James L. Thomas is appointed assistant professor of biomedical engineering and chemical engineering.
- 1997:** Fu Foundation award of \$26 million to Columbia is announced; one quarter is to support biomedical engineering. Columbia names Andrew F. Laine, associate professor, and Clark T. Hung, assistant professor, to the biomedical engineering faculty.
- 1998:** Dr. Van C. Mow is named Stanley Dicker Professor of Biomedical Engineering.
- 1999:** Columbia Trustees establish the Department of Biomedical Engineering. Dr. Jeffrey W. Holmes begins appointment as assistant professor of biomedical engineering.
- 2000:** Columbia applies for Whitaker Foundation Leadership Development Award to expand biomedical engineering.

rainbow of colors to show thickness and pinpoint arthritic damage to the joint. "It's a good tool because it's so visual," says Zohara Cohen, a mechanical engineering graduate student in the orthopedics lab who has been working on the project since 1994.

The goal of the Columbia team is to create a model of the patient's knee within a few hours and to have the modeling procedure constitute a small fraction of the total cost of the knee operation. The goals of this effort are to aid the surgeon in planning surgical procedures and to perform the most appropriate and economical surgical procedure for a specific patient. Then, perhaps, on to other joints. "There are potential applications to any joint in the body where the cause of the disorder is primarily mechanical," says Dr. Ateshian.

Tissue Engineering: From Molecules to Motion

Both undergraduate and graduate students working in the cellular engineering lab and musculoskeletal biomechanics laboratory are investigating one of the most complex and clinically important questions in bioengineering—how cartilage develops in the body.

The work under way at the laboratory is truly multidisciplinary. "The concept of doing research by yourself is old school," says Dr. Clark T. Hung, assistant professor of biomedical engineering and director of the cellular engineering laboratory. He works closely with Dr. Wilmot B. Valhmu, associate research scientist in the orthopedics research laboratory, and Dr. Ateshian. "Among the three of us, we have five NIH R01 grants to look at cartilage," notes Dr. Hung.

This collaboration is a vivid illustration of how engineering can help researchers look at physiological problems in new ways. One of these grants allows Dr. Hung, Dr. Valhmu, and Dr. Ateshian to build a bioreactor to grow cartilage under conditions that they hope will simulate the forces and pressures within the human body. The ultimate goal will be to grow cartilage in the laboratory with the mechanical strength of the real thing, to be used to replace cartilage lost or damaged by injury or degenerative dis-

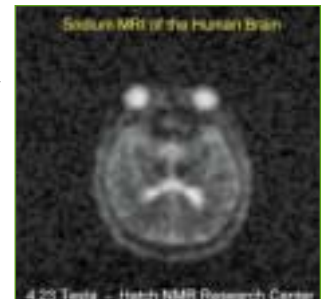
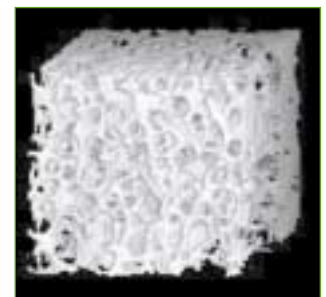
ease, such as osteoarthritis. But Dr. Hung admits that this is a long-range goal, which will be facilitated by a better understanding of how cells respond to their physiologic environment. "It's so complex to understand what the cell sees. We have to go back and forth between levels of complexity. We look at the molecular level on up to computer-aided surgery models of patient knees."

They have had some early success using dynamic loading to improve strength in bovine tissue models in vitro, getting results superior to those published by other investigators.

Cellular engineering is one of three tracks available to students in the Department of Biomedical Engineering. Courses within the track emphasize biochemical processes within and between cells, transport and rate phenomena, and thermodynamics. Dr. Hung and his fellow biomedical engineering faculty members spend a considerable amount of time developing the curricula, as well as teaching and doing research. "The curricula is exciting and dynamic, and it is still evolving as more faculty are hired," he explains.

Biomedical engineering research at Columbia extends from tissues to organs, as these images illustrate.

The first two are models of the microstructure of trabecular bone, and the third is an fMRI detecting activation of brain circuits.



P & S STUDENTS

Venezuela, Mud Slides, and P&S Students

Saving lives is the reason many students offer for pursuing a medical degree, so it should come as no surprise that P&S students devote time during medical school to volunteer for a project that saves lives half a world away.

When Venezuelans were hit by torrential rains and mud slides in December, relief was sought from individuals and organizations worldwide. REMEDY, a student-run program at P&S, was poised to help. Students who volunteer for REMEDY—Recovered Medical Equipment for the Developing World—gather in a basement storeroom to salvage unused medical equipment and supplies at Columbia-Presbyterian.

REMEDY was founded at Yale, and the P&S chapter is one of many at American medical centers, where administrative support and staff cooperation allows student volunteers to keep medical equipment and supplies from being wasted. Supplies are donated to clinics and health organizations in Guatemala, Haiti, Colombia, Honduras, Tanzania, Kenya, Armenia, Thailand, China, the Philippines, and other countries in need. At CPMC, students volunteer to collect, sort, sterilize,

and inventory supplies from the operating rooms at the Milstein Hospital Building.

The REMEDY effort was especially helpful when Venezuela's needs were acute because a computerized inventory completed last summer allowed for the shipment of thousands of dollars worth of goods to Venezuela the same day they were requested.

Members of the group spent last semester gathering and sorting more than 150

boxes of unused medical equipment that would have otherwise been discarded. These materials include supplies discarded by areas of the hospital under renovation and supplies or equipment that become obsolete but are still usable. For example, when the hospital changed to a new kind of IV needle, existing IV needles were discarded.

The students also completed a detailed inventory of their collection.

Dr. Victor Pacheco-Fowler, assistant clinical professor of medicine, organized relief efforts for the areas of Venezuela ravaged by severe mud slides and contacted Dr. Edgar Housepian, special adviser to the dean for international affiliations, who then contacted REMEDY.

"I contacted Dr. Pacheco that afternoon. When I showed him a printout of our inventory he was ecstatic," says Anand Joshi'01, director of storeroom operations for REMEDY. He and Dr. Pacheco loaded the goods (more than 150 boxes of supplies worth tens of thousands of dollars) onto a truck with the help of employees from facilities management. "The materials we donated were flown out to Venezuela that evening because they had already been accurately inventoried by us."

The contribution to Venezuela earned the students a letter from the Venezuelan consulate and a letter of thanks from Dr. Pacheco, a native of Venezuela. "The true scope of this natural disaster is beyond description, and its effects will be felt for decades to come," Dr. Pacheco wrote. He praised REMEDY's organizational strengths and a student's availability in the middle of winter break. "The meticulous sorting and inventorying that your group had done made it very easy to decide which supplies would be useful for the relief mission and saved the Venezuelan authorities from having to sort these supplies themselves."



PHOTO BY STEPHAN DOUGLAS

REMEDY members Sarina van der Zee'03, Anand Joshi'01, and Audrey Liu'03 with supplies to be donated to countries in need.

ARCHIVE DONATIONS

Archives & Special Collections reports the following donations of materials from Fall 1998 to Fall 1999.

Family of Hugh Auchincloss Jr.'42: 28 titles in surgery and the history of medicine dating from 1726 to 1967. Included are Gurdon Buck's "Contributions to Reparative Surgery" (1876); Sir Astley Cooper's "Lectures on the Principles and Practice of Surgery" (1829); John Friend's "History of Physick from the Time of Galen to the Beginning of the 16th Century" (1726); and Sir James Paget's "Lectures on Surgical Pathology" (1853).

F Mitchell Cummins'45: two notebooks kept during medical school and residency by his wife, Rosamond Kane Cummins'52, the first woman to become a resident at New York Orthopedic Hospital.

Elizabeth B. Davis'49: unpublished papers concerning her work with minority populations at Harlem Hospital, where she was chairwoman of psychiatry, 1962-1978.

Henrik Bendixen: his personal papers, dating from 1953 to 1999. They span his entire career from medical school in Denmark through his years at P&S and Columbia as chairman of anesthesiology (1973-1985), acting provost and vice president for Health Sciences (1980-1981), and vice president for health sciences and dean of the Faculty of Medicine (1984-1989).

Family of Dr. Raffaele Lattes: personal papers of Arthur Purdy Stout'12, Dr. Lattes' predecessor as director of the CPMC surgical pathology laboratory. Included are a diary, profusely illustrated with photos, from an East Asian trip Dr. Stout took in 1907; medical school notebooks; letters to his wife while in military service in Europe during World War I; and numerous photographs.

Dr. Jack Elinson, professor emeritus of public health: his personal papers, 1957-1992, documenting his 30-year career at the

school and his role as one of the founders of sociomedical science. Included are records of many of the groundbreaking projects in which he participated.

Drs. John Driscoll and John Truman, Babies & Children's Hospital: records and artifacts relating to the history of Babies & Children's Hospital, including early 20th century case records of Dr. L. Emmett Holt; books by and about 19th century pioneer pediatrician Abraham Jacobi; photographs, awards and other memorabilia of Dr. Hattie Alexander, long-time professor of pediatrics at P&S; a diary kept by former Babies Hospital director Rustin McIntosh during a trip to Europe in late 1945; and an early intubation kit.

Joseph L. Mailman School of Public Health: the personal papers of former faculty members Frank Calderone and Clement Clay.

School of Nursing: medals awarded Jane Rignel St. John (Class of 1913) for her service as a nurse during World War I; scrapbooks and photographs of Elizabeth Gill, dean of the School of Nursing, 1961-1968; and a scrapbook kept by Betty Nordstrom Hanway (Class of 1951) during her school years.

Columbia University-Presbyterian Hospital School of Nursing Alumni Association: "Letters from the Second General Hospital, 1942-1945," compiled by Aileen I. Hogan (Nursing Class of 1940) who served in the Presbyterian Hospital unit in World War II; Wilma Stevens Hawkins (Nursing Class of 1933), "Five Years in Syria," a compilation of her letters while a nurse at the Hospital of the American University in Beirut, Lebanon, 1934-1939; and "The P.H. Alumnae Cookbook" (1949).

Though not a donation, one of the most significant accessions was the transfer from the Columbiana Collection on the Morning-side campus of approximately 25 cubic feet of records and printed material relating to the Health Science schools. Among the items transferred were the minute book and student register of the Faculty of Medicine of Columbia College dating from 1791, when the school reopened after the American Revolution, until 1814, when it was merged into the College of Physicians & Surgeons.



Among a donation of materials that belonged to renowned surgical pathologist Arthur Purdy Stout'12 was Stout's diary of a trip he took around the world in 1907-08. Stout, seated in the center on the left, is shown with his Yale classmate Harvey Perrin and the crew of their boat on the banks of the Yangtze River in China in September 1907.

P & S NEWS

Medical Informatics Names New Chairman

A national leader in medical informatics, Dr. Edward (Ted) Shortliffe, has been named chairman of the Department of Medical Informatics at P&S. He most recently served as professor of medicine and of computer science at Stanford University.



Dr. Edward Shortliffe

"Ted Shortliffe brings a number of qualities to this department," says Dr. George Hripcsak, P&S associate professor of medical informatics. "He is one of the founders of the field of medical informatics. His talents bridge medicine and computer science, being well-known in both areas. In addition to being an outstanding clinician, he is an expert in medical education and in medical informatics education."

Dr. Shortliffe received his undergraduate degree in applied mathematics from Harvard. His Ph.D. in medical information sciences and his M.D. degree are from Stanford. After completing an internal medicine residency at Massachusetts General and Stanford hospitals, he joined the internal medi-

cine faculty at Stanford and directed research in medical informatics. He was instrumental in creating Stanford's degree program in medical informatics—"one of the top graduate programs in this field," says Dr. Hripcsak.

Dr. Shortliffe served as Stanford's chief of general internal medicine from 1988 to 1995 and its associate dean for information resources and technology since 1995. He is a member of the Institute of Medicine and the American Society of Clinical Investigation and is a fellow and regent of the American College of Physicians. He is a high-level adviser to the federal government on information technology issues as a member of the Presidential Information Technology Advisory Committee.

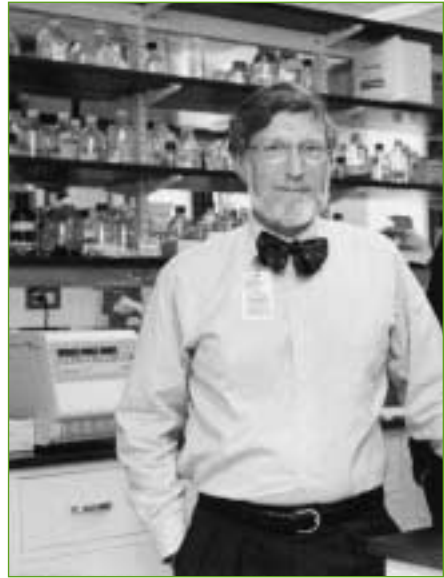
Dr. Shortliffe was a member of a site visit committee reviewing Dr. Paul Clayton's first large grant application shortly after arriving at P&S. Dr. Clayton, adjunct professor of medical informatics, was the first chairman of medical informatics at P&S.

"I was impressed," says Dr. Shortliffe, "not only by Paul's personal vision and leadership, but also by the remarkable support from both the hospital and medical school for what he wanted to do. That institutional support for informatics has borne marvelous fruit in the last decade, and Columbia's Department of Medical Informatics is now clearly identified as a world leader in the area. The department has evolved appropriately as a hybrid between a clinical department and a basic science department. The clinical side is intimately involved in the evolution of clinical systems for the health system, while the basic science side is offering formal graduate degrees and carrying out fundamental research in medical informatics.

"After visiting Columbia I became convinced that there is no institution better positioned to define and advance the field of medical informatics—and to demonstrate its relevance both to clinical practice and to the conduct of bio-

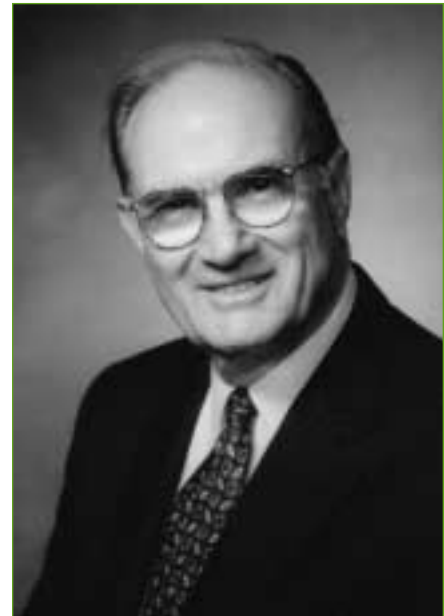
medical research. I welcome the opportunity to help to lead that effort."

Two Elected to Institute of Medicine



Dr. Michael Shelanski

The Institute of Medicine of the National Academy of Sciences has elected two Columbia professors to membership. Dr. Michael L. Shelanski, Delafield



Dr. Lewis Rowland

P & S NEWS

Professor and Chairman of Pathology, was one of 55 individuals elected to new IOM membership. Dr. Lewis P. Rowland, professor and chairman of neurology from 1973 to 1998, was one of five individuals chosen for senior membership.

Dr. Shelanski is internationally recognized for his pioneering studies of the cytoskeleton, particularly the structure of the cytoskeleton of neurons. He has conducted important studies of the biological function of microtubules and neurofilaments, which hold potential significance in understanding the aging brain and nervous system and such neurological diseases as Alzheimer's. He is co-director of the new Taub Institute for Research on Alzheimer's Disease and the Aging Brain and the new director of

Columbia's M.D./Ph.D. program.

Dr. Rowland is co-director of the H. Houston Merritt Clinical Research Center for Muscular Dystrophy and Related Diseases. He founded and directed the Lou and Eleanor Gehrig MDA/ALS Center from 1980 to 1999. He has been president of the American Neurological Association, the American Academy of Neurology, the Association of University Professors of Neurology, the Association for Research in Nervous and Mental Disease, and the Parkinson's Disease Foundation, which has its headquarters at Columbia-Presbyterian.

Candidates for membership in the Institute of Medicine are chosen for their contributions to health and medicine or related fields.

Axel Named University Professor

Dr. Richard Axel, a pioneer in bringing the insights of molecular biology to bear on the study of perception, has been named University Professor, the highest academic rank at Columbia. The appointment allows Dr. Axel to teach in any department of the University. He is one of only nine University Professors at Columbia.

Dr. Axel, a 1967 Columbia College graduate, joined the faculty in 1974 and most recently served as Higgins Professor of Biochemistry and Molecular Biophysics and professor of pathology. He continues his affiliation with the Howard Hughes Medical Institute, where he has been an investigator since 1984.

"I am pleased and honored to be appointed University Professor," Dr. Axel said. "I owe an enormous debt to this University. Thirty-five years ago, Columbia provided a scholarship allowing me to attend the college. As an undergraduate, I stood in awe of the University Professors, and it is therefore particularly meaningful to me to have been afforded this honor. When I returned as a professor in 1974, Columbia provided an environment allowing my laboratory to flourish.

"What is the significance of this appointment to a molecular geneticist working on perception? The study of perception has a distinguished history that has often ignored biology. With the demystification of the brain, molecular biology can now approach the previously tenuous relationship between genes and behavior, cognition, memory, and perception. Thus, what we do has emerged into a multidisciplinary endeavor. The University Professorship will hopefully afford an opportunity for interactions that bring molecular biology closer to the disciplines of psychology and, at the extreme, perhaps even philosophy."

Dr. Axel is known as one of the world's

Not Your Typical White Coat Ceremony



Congressional staff from New York and Washington, D.C., offices experienced four years of medical school condensed into one day-long visit to both P&S and New York University School of Medicine in December as part of Project Medical Education, a national program designed to increase Congressional awareness about the serious issues facing medical education. In a white coat ceremony tailored specifically for them, they recited a special "legislative" Hippocratic Oath. After presentations on the workings of an academic medical center, a medical school curriculum, and the M.D./Ph.D. program, they were ready to transition into practice . . . all before lunch at NYU. The afternoon at NYU was structured around graduate medical education issues, including education, research, and patient care.

P & S NEWS

leading biologists. He has been recognized for identifying the genes that encode odor-



Richard Axel, left, with fellow University Professor, Eric Kandel

ant receptor proteins, for developing a patented gene transfer process responsible for many new pharmaceuticals, and for research that sheds light on how the AIDS virus infects healthy cells.

Changing of the Guard in M.D./Ph.D. Program

Dr. Michael Shelanski, Delafield Professor and Chairman of Pathology, became director of the M.D./Ph.D. program last July. After close to 20 years as director, Dr. David Schachter, professor of physiology and cellular biophysics, decided to step down and return to research.

The M.D./Ph.D. program is sponsored by the Graduate School of Arts and Sciences and P&S. It allows students to work toward a Ph.D. degree while earning an M.D. degree. Students enrolled in the M.D./Ph.D. program must complete the

basic science requirements of the medical program, complete the Ph.D. at a participating department, then return to P&S to complete the requirements for the M.D. degree.

Irving Gift Launches Plans for New Audubon Building

The Irving Cancer Research Center will become the third building in the Audubon Biomedical Science and Technology Park. With the announcement of the first gift for the new building's construction promised from Herbert and Florence Irving, the Health Sciences is inaugurating a campaign to raise funds for the \$120 million facility. Private and government support is being sought.

As prospects for developing newer, more successful methods of treating cancer continue to increase, the Irving Cancer Research Center promises to become a valuable national resource. The 13-story building, which will include seven

research laboratory floors and two floors of animal facilities, will honor Mr. Irving, whose many gifts have made him the most generous donor in the history of the Columbia Health Sciences. In 1987, he and his wife, Florence, established the Irving Center for Clinical Research and provided funds to sponsor young researchers, known as Irving Scholars. In 1995, they gave funds for construction of CPMC's new cancer treatment facilities, followed by support for Columbia's cancer programs, which were renamed the Herbert Irving Comprehensive Cancer Center.

Creation of a state-of-the-art building to accommodate basic scientists and clinicians working in cancer at a single site on campus is expected to encourage collaborative efforts, building on Columbia's important contributions to cancer research and treatment. At the molecular and genetic level, recent findings include Dr. Ramon Parsons' identification of PTEN, the first gene to be associated with sporadic breast, brain, and prostate cancer; the discovery by Drs. Yuan Chang and Patrick Moore of the virus responsible for Kaposi's sarcoma; and Dr. Riccardo Dalla-Favera's discovery of the oncogene for diffuse large cell (non-Hodgkin's) lymphoma. Significant strides in clinical therapy at Columbia

incorporate one of the nation's leading bone marrow transplant programs, the pioneering use of innovative non-invasive diagnostic and surgical techniques for brain cancer, and major improvements in screening for prostate cancer. The Irving Cancer Research Center also will provide a focus for strengthening and consolidating work on the development of preventive measures.



Mr. and Mrs. Irving

P & S NEWS

Telemedicine Demo Will Test Internet Waters for Clinical Applications

Two P&S graduates—one a faculty member at P&S, the other on the faculty of SUNY Upstate Medical University—are co-principal investigators on a \$28 million federal grant to bring health care into the homes of underserved rural and inner-city residents with diabetes. It's the largest telemedicine effort ever funded by the Department of Health and Human Services.

Columbia and SUNY join other sites in the effort, called Informatics for Diabetes Education and Telemedicine, which will serve as a test bed for the use of Internet technology to increase access to health care for all Americans.

Traditionally, Americans living in rural and impoverished inner-city areas receive less primary care and are isolated from high-quality specialty care. Led by Steven Shea'79, the Hamilton Southworth Professor of Medicine at P&S, and Ruth Weinstock'80, a SUNY professor who also received a Ph.D. from Columbia, the diabetes telemedicine program is a collaborative effort among the Joslin Diabetes Center of SUNY Upstate, the American Diabetes Association, Harlem Hospital Center, the Harlem Renaissance Network, Arnot Ogden Hospital in Elmira, N.Y., Olean General Hospital in Olean, N.Y., Good Samaritan Hospital in Watertown, N.Y., the Hebrew Home for the Aged in Riverdale in the Bronx, and the federal Health Care Financing Administration.

"While much has been made of the digital divide between rich and poor, rural and urban, I believe this technology will bring better, faster health care to all," says U.S. Rep. Charles B. Rangel of Manhattan. U.S. Representative Amory Houghton of upstate New York adds, "Telemedicine can reach beyond the limits to health care in

rural New York to ensure quality care in any environment."

Approximately 1.6 million New York state residents suffer from diabetes. Complications from diabetes cost the U.S. economy \$45 billion each year, with an additional \$47 billion attributed to indirect costs from diabetes-related disabilities. The federal government could save \$247 million annually through early intervention in diabetes treatment and even more (\$457 million) if telemedicine can expand the reach of that treatment.

The four-year grant will enable researchers to study the efficacy of telemedicine in improving patient quality-of-life and reducing overall health care cost. Through web-based computing and telecommunications networks in urban and rural economically disadvantaged areas within New York state, 1,500 patients from Northern Manhattan (Washington Heights, Inwood, and North and Central Harlem) and rural areas of Central and Upstate New York will be enrolled in the project initially. Computers with devices to read blood sugar, take pictures of skin and feet, and check blood pressure will be placed in half of these patients' homes and the other half, the control group, will continue with the care they usually receive from their providers.

Participants will receive Internet service, training in equipment use, and maintenance support. Patients will check their blood sugar, blood pressure, and other factors that affect diabetes. They will be able to view their own medical information, learn more about diabetes, and receive recommendations and instructions on how to manage their disease. Decision support systems will play a crucial role, as an automated care guideline system will analyze each patient's data. If information recorded on the computer varies from predetermined values, an automated alert will be sent to the physician or nurse. The system also will provide suggestions and reminders to patients about what steps

they need to take to maintain good health.

"In a doctor's office, care of diabetes takes place for a few minutes every few months," says Dr. Shea. "But in a patient's home, diabetes care occurs every day. Telemedicine will give people the tools they need to take control of their diabetes. We will be reaching into patients' homes and empowering them to take better care of themselves through monitoring, access to information, and education. This 'house call' of the future will allow patients and clinicians to reach out across any distance for care."

"Diabetes, more than most other chronic diseases, requires daily self-management. One cannot take a vacation from diabetes," says Dr. Weinstock, professor of medicine, medical director of the Joslin Diabetes Center, and chief of endocrinology, diabetes, and metabolism at SUNY Upstate. "Education, frequent monitoring, and medication adjustments in the home setting should help patients achieve better glucose and blood pressure control, thereby preventing or slowing the progression of diabetes' dreaded complications, such as eye disease, nerve and kidney damage, heart attacks and strokes."

The American Diabetes Association has designed a special "trusted" web site—no marketing or advertising—for telemedicine participants. The site offers comprehensive and reliable information on diabetes management in both English and Spanish and at levels that all users can understand.

Columbia's Department of Medical Informatics pioneered the use of the web in providing clinical care. Two million patient records are computerized at Columbia-Presbyterian and are available for secure access online by more than 4,000 clinicians. SUNY Upstate's Joslin Center is preeminent in providing state-of-the-art diabetes care in urban and rural settings, and Columbia's Naomi Berrie Diabetes Center is one of New York City's leading centers for diabetes care and research.

IN MEMORIAM

FACULTY

Harald H. Rossi, Ph.D.

Dr. Harald H. Rossi, professor emeritus of radiation oncology, died Jan. 1, 2000, at his home in Upper Nyack, N.Y. He suffered from heart disease. Dr. Rossi joined the Columbia faculty in 1946 and served as director of the radiological research lab from 1960 to 1984. He chaired the Joint Radioisotope Committee, Radioactive Drug Research Committee, and the Joint Radiation Safety Committee for Presbyterian Hospital.



Harald H. Rossi

Dr. Rossi's research focused on the effects of ionizing radiation on biological systems, particularly the physical mechanisms responsible for carcinogenesis. He conceived and developed a new scientific discipline, microdosimetry, which remains the international basis for quantifying the quality of radiation in radiation protection and therapy.

He designed and helped build many of the radiation instruments used in radiation dosimetry, including a proportional counter, now known as the Rossi counter, that measures the energy deposited by radiation in microscopic sites as small as human cells.

OTHER FACULTY DEATHS

Harry Tune Seneca, M.D., former faculty member in urology, died Nov. 9, 1999.

ALUMNI

Class of 1931

George Strenger, a retired general surgeon from Laguna Niguel, Calif., died Oct. 6, 1999. Following training he began a private practice in Brooklyn, specializing in traumatic and intestinal surgery. Dr. Strenger served as commander of a flying field hospital in Europe during World War II. Returning to the United States, he reorganized the surgical department and served as chief of surgery for the New York Regional Office of the Veterans Administration. He was the author of a book, "A Doctor's Sports Program for the Older Athlete," published in 1990. He was preceded in death by his wife, Florence. Dr. Strenger is survived by two sons.

Class of 1939

Nathalie M. Dillont, a retired pediatrician and psychiatrist, died of a heart attack Aug. 27, 1999, at age 90. Interning at the First (Columbia) Division at Bellevue Hospital, she went on to pursue a private practice in pediatrics before and after World War II. She later trained in psy-



Nathalie M. Dillont '39

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chiatry and served for 17 years as a staff member at the mental health clinic at Bronx Lebanon Hospital. Dr. Dillont also served as an instructor in psychiatry at Albert Einstein College of Medicine. A musician by avocation, she played violin with the Hudson Valley Symphony and the Senior Orchestra of White Plains. A loyal and active alumna, she officiated for many years as class chairwoman of the Annual Fund. She leaves behind her husband, Dr. Robert McHardy Johnson, and two daughters.

Class of 1940

William L. McLaughlin, a retired urologist, died Nov. 11, 1998, of pancreatic cancer. A former faculty member at Dartmouth Medical School, Dr. McLaughlin had been affiliated with Mary Hitchcock Memorial Hospital in Hanover, N.H., and Desert Hospital in Palm Springs, Calif. Surviving him are his wife, Jeanne, two daughters, three sons, and four grandchildren.

Class of 1943

James F. Jones died Nov. 5, 1999. A retired general practitioner, he had been affiliated with Day Kimball Hospital in Putnam, Conn. Dr. Jones served as a medical officer in the U.S. Army during World War II and in the Army of Occupation in Japan. He is survived by his wife, Anne, two daughters, a son, six grandchildren, and a sister.

Class of 1946

Robert L. Boettjer died March 2, 1999. A retired general practitioner, formerly affiliated with French, St. Joseph's, and Notre Dame hospitals in San Francisco, he served in the Army from 1947 to 1953. Dr. Boettjer leaves behind his wife, Amida.

Class of 1947

Word has been received of the death of **Henry J. Wheelwright**, date unknown. Dr. Wheelwright, a retired internist, pursued private practice in Pittsfield, Mass., specializing in hematology. Former medical director of Augusta General Hospital in Augusta, Maine, he joined the Berkshire Medical Group. He conducted hematology research as chief of the clinical pathology section in the clinical research division of the U.S. Army Chemical Center in Maryland and served as a

special consultant in hematology from the Surgeon General's Office to the National Government of Free China (Taiwan). Dr. Wheelwright is survived by his wife, Mary, a daughter, five sons, and three grandchildren.

Class of 1948

Retired general surgeon **Jean L. Quintero** of Maracaibo, Venezuela, died June 7, 1999. "Practicing surgery in Venezuela," she once wrote, "at times required extending into neurosurgery, veterinary medicine, and other fields." Survivors include her husband, Dr. George A. Quintero, a daughter, and four sons.

Class of 1954

Robert A. Munsick, professor emeritus of obstetrics and gynecology at Indiana University, died peacefully in his sleep Nov. 7, 1999. Following medical school, Dr. Munsick earned a Ph.D. in pharmacology from Columbia. He served as a captain in the U.S. Army in Germany from 1955-57. After serving on the OB/GYN faculty at the University of Colorado in Denver, Dr. Munsick went on to establish a new department in his field at the University of New Mexico in Albuquerque in 1965. At the time he was the youngest professor and chairman at any medical school in the United States. He leaves behind his wife, Nancy, three sons, eight grandchildren, and two brothers.

Class of 1959

Paul Sigler, a scientist who helped pioneer the field of structural biology, died suddenly Jan. 11, 2000, after collapsing on campus while walking to his lab at Yale University, where he was the Henry Ford II Professor of Molecular Biophysics. He was internationally known for his pioneering work on hormone receptors and cellular interaction, but he also co-conducted a popular undergraduate class on "Life at the Molecular Level" for non-science majors. He once fondly recalled that as a P&S student he also applied his scientific talents to brewing beer. Following medical school, he pursued his internship and residency at Columbia-Presbyterian. In the early 1960s he joined a group of biophysicists engaged in unraveling the secrets of enzyme function. Following a stint at the NIH he joined scientists at the Medical Research Council Laboratory in Cambridge, England. The group succeeded, in 1967, in

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determining the atomic structure of the second enzyme ever unraveled. In more than 20 years at the University of Chicago, he established the structure of the RNA molecule involved in the initiation of protein synthesis, which led to his seminal studies of proteins that regulate the expression of information encoded in genes. His work has had a profound impact on the field of structural biology, shedding new light on the science of cell development, cancer, and hormone regulation. At Yale he had been a Howard Hughes Medical Institute investigator since 1989. He was a member of the National Academy of Sciences. He is survived by his wife, Althea Jo, four daughters, and a son.

Class of 1963

Eli R. Wayne, a pediatric surgeon, died Nov. 7, 1999. Associate professor of surgery at the University of Colorado, he was affiliated with Children's and St. Joseph's hospitals in Denver. He was the author of numerous peer-reviewed papers in his field. Dr. Wayne served as a major in the U.S. Army from 1968 to 1971, earning an Air Medal with Oak Leaf Cluster, a Bronze Star, and a Combat Medical Badge. Among his extramedical activities, he was a high school baseball coach and ran a celebrity golf tournament. He is mourned by his wife, Judy, and a son.

Colleagues, Friends, and Former Student Pay Tribute to Don Tapley

At a March 22 memorial service, Donald F. Tapley was recalled with a mix of humor and respect as a teacher, friend, colleague, and family man. The former dean of P&S died Dec. 16, 1999, at age 72.

Dr. Myron Weisfeldt, chairman of medicine, described him as a man who stood on a pedestal, "but one only an inch or two above ground." Many people in all walks of life benefited from his counsel, said Dr. Weisfeldt, who outlined Dr. Tapley's contributions to medical science and education that preceded his years as an administrator. "In my own house staff days, he was one of my most valued teachers."

Nobel Laureate Harold Varmus'66, who is now president and CEO of Memorial Sloan-Kettering Cancer Center in New York, called his own contribution to the memorial service "a voice from the past." He recalled knowing Dr. Tapley as a medical student and member of the house staff. He remembered Dr. Tapley as "droll, unusual; he was even Canadian." He recalled his Cheshire cat grin during medical student case presentations, followed by a twinkle of approval and probing questions. Because Dr. Tapley seemed to enjoy life, he served as a role model to students and residents contemplating life after medical school and training, particularly those considering a career in academic medicine. Dr. Varmus was a faculty member at the University of California at San Francisco for many years before being named director of the National Institutes of Health.

Nicholas Christy'51 offered "simple and personal memories" of Dr. Tapley as a fellow resident in medicine. "In his 20s, he had natural dignity," Dr. Christy said. The legendary Robert Loeb took Dr. Tapley under his wing—much to the annoyance of his envious fellow residents—and Dr. Tapley became an assistant professor

at P&S after he returned from a fellowship at Johns Hopkins. "It was very annoying to the rest of us, but he earned it."

Dr. Tapley became dean after an individual at Harvard turned down the job, Dr. Christy said. "We were stuck with Don Tapley, and it's the best mistake we ever made."

Herbert Irving told of his initial meetings with the dean and the years of donations that followed, making Mr. Irving the largest donor in the medical center's history. "As the years progressed, our friendship grew stronger and stronger and stronger, and my bank account grew weaker and weaker and weaker." Donations from Mr. and Mrs. Irving have supported professorships, the comprehensive cancer center, the center for clinical research, and a program in cancer research at the Audubon Biomedical Science and Technology Park.

Mr. Irving's mother-in-law was disappointed her daughter didn't marry a doctor, he said, but Dr. Tapley partially remedied that. "He couldn't make me a doctor, but he sold me a hospital."

Mr. Irving said he and Dr. Tapley talked to each other nearly every day and ate lunch together frequently at the Faculty Club, a legacy of the Tapley administration. "Donald Tapley was my very best friend, and I know somewhere in heaven he's working on God to get us a faculty club so we'll have someplace to eat when we get there."

Thomas Q. Morris'58, interim dean for clinical and educational affairs at P&S and a colleague of Dr. Tapley's for more than 40 years, noted that Dr. Tapley considered P&S to be part of his family. That observation was illustrated with a slide show Dr. Morris narrated showing photos of Dr. Tapley from infancy through a Tapley family photo, mixed with photos of his leadership roles in the P&S family.

ALUMNI NEWS AND NOTES

ALUMNI PROFILE



John K. Lattimer '38

Throughout his long and fruitful career, John K. Lattimer '38 has often touched and been touched by history. Innovative academic urologist, record-setting athlete, veteran Army surgeon on hand at the Normandy Invasion and the Nuremberg trial, noted collector, eclectic author, ballistics expert and forensic authority on the Lincoln and Kennedy assassinations, and recipient of more medals than a fine lapel can hold, his epic list of accomplishments fills a full 59 lines of "Who's Who in the World." His patients have included such key players in the course of events as the man who built the George Washington Bridge (Othar Ammann), Columbia University President Nicholas Murray Butler, actress Greta Garbo, U.S. President Warren Harding, aviator Charles Lindbergh, Reader's Digest co-founder DeWitt Wallace, the injured survivors of the Hindenburg explosion, and the notorious defendants at the International Military Tribunal at Nuremberg. At 86 and counting, a hip replacement may have slowed his strut and tipped his statuesque 6-foot-4-inch frame a hair, but the verve and gusto still run at full tilt, keeping an interviewer on his toes.

From Maple Rapids, Mich.,
to Morningside Heights

"My theory is that people's capabilities in their given fields grow from a cluster of elements, all of which have to click," Dr. Lattimer reflected in a profile that appeared in AMERICANA

Urologist, Historian, Collector, Sleuth —A Medical Man for All Seasons

Alumni News Editor:
MARIANNE WOLFF, M.D.

Alumni News Writer:
PETER WORTSMAN

By Peter Wortsman



Future urologist with barnyard pet

in 1981. While he was referring specifically to the art of collecting, one of his many avocational interests, his own complex elemental cluster is difficult to dissect.

As a boy stalking pesky crows on the family farm near Maple Rapids, Mich., young Lattimer learned to lock onto his wily target and stick with it until the job was done, a skill that would come in handy years later—when he ran the U.S. government effort

to stalk and stamp out renal TB—and later still when he applied his ballistic talents to demystify the much-touted myth of conspiracy in the assassination of President John F. Kennedy. He inherited a healthy dose of curiosity and analytical skill from his father, an inventor-engineer and early pioneer in long distance communication for AT&T. His maternal grandfather, a successful Michigan physician who took him along on emergency calls, and a long line of doctors on his mother's side predisposed him to a medical career. Moving to New York with his family at age 2, he returned to the heartland every chance he got to cut loose on the lands the Lattimers homesteaded before the Civil War.

It was there on a Michigan country road one hot summer day that he first encountered living history in the person of a young pilot who stopped to give him and a friend a lift. "You know who that was, don't you?" said the friend, breathless with excitement.

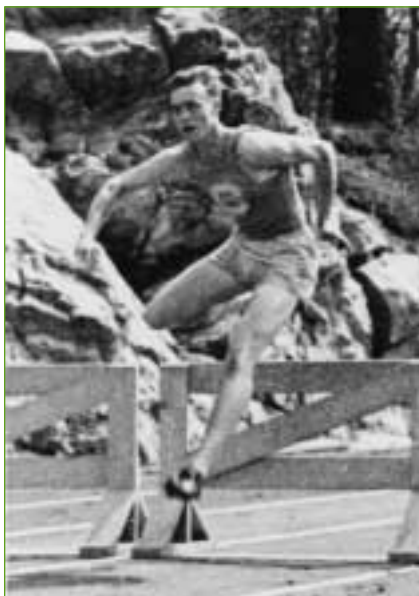


Lattimer family Michigan homestead

teur Athletic Union 200 meter hurdler (a record unbroken for 12 years) and winning the 50-yard dash at the Millrose Games. During his military service, he won the 200-meter hurdles for the 7th U.S. Army at the GI Olympics in Germany.

“That was Charles Lindbergh!” All summer long, John Lattimer watched his hero hone the art of skip bombing on Lake Michigan, a practice put to effective use in World War II. Dr. Lattimer delights in recounting the hilarious and hair-raising tale of how he and his friend salvaged unexploded bombs as souvenirs, gingerly transporting them home via rowboat and bus, thus launching his career as a collector of the arcane. (Family heirlooms already included several early American

Young Lattimer competing for Columbia College



silver-hilted swords, including the one brandished by a notable ancestor, Ethan Allen, at the capture of Fort Ticonderoga.) Years later, when Lindbergh, then a patient, came for dinner, Dr. Lattimer amused his guest by hauling out a vintage bomb Lindbergh had dropped.

Back in New York, where the family settled down, Lattimer attended public schools then Columbia College. In addition to the traditional course of study, he shone as an athlete, setting a record as the Columbia decathlon champion and as an Ama-

Medicine Beckons, Urology Calls

Dr. Lattimer credits Nicholas “Miraculous” Butler, the illustrious president of Columbia University (and later a patient), for first conceiving the idea, in 1910, of a medical center comprising hospitals in various specialties as well as schools of medicine, dentistry, and nursing all located in the same vicinity.

Dr. Lattimer’s medical student days and years of training at the Squier Urological Clinic paralleled the golden age of P&S. With legends like Dean Willard Rappleye at the helm and the world-renowned team of Robert Loeb and Dana Atchley running the show in medicine, the patient population comprised captains of industry, international statesmen and royalty, movie stars, and star athletes. In the corridors and elevators of the medical center, Lattimer remembers bumping into the likes of the king of Siam, the prince of Wales, the prime minister of Canada, Madame Chiang Kai-shek, actor Clark Gable, and boxer Gene Tunney. Famous as he was, Dr. Loeb was not above ferrying the entire class of 1938 over to Seaview on Staten Island to study tuberculous lesions. Renowned (and feared) for his keenly observant eye, Dr. Loeb also taught students a fundamental human lesson: “The patient

wants a friend.” It was a message Dr. Lattimer took to heart and has passed on to generations of P&S students. Dr. Atchley taught the day-to-day rigors of quality care. “When you had one of Atchley’s patients in the hospital,” Dr. Lattimer remembers, “your phone would ring at 5 a.m. ‘What are you going to do with Greta Garbo today? I want to be there!’”

But of all his teachers, Lattimer was most dazzled by the competence and



Young Lattimer, far left, competing for Columbia College in the Sprint Relay Championship of America, 1934

John K. Lattimer '38 as a rotating (surgical) intern on the run for Methodist Episcopal Hospital in Brooklyn, circa 1938

style of the chairman of urology, J. Bentley Squier, who ran the famous clinic established in his name like a gold-plated temple of excellence for all, VIPs and indigent patients alike. Arriving on alternate days in a purple paneled Bugatti Royale and a pearl gray Rolls Royce, he sent his liveried footman ahead, hat in hand, to announce his arrival. This lavish manner did not keep him from personally inspecting the floors on Sundays. Dr. Squier was famous for his surgical skill and speed at a prostatectomy (eight minutes flat!) and other delicate operations, time often being a factor of life and death in the days before antibiotics and blood transfusions. Another famous member of the faculty, and chairman after Squier's retirement, George Francis Cahill, was a wizard at removing adrenal tumors. For a time, the department became involved in sex change operations. Christine Jorgensen, the world's first transsexual, consulted in later years with Dr. Lattimer. What particularly appealed to him about urology was its diverse challenge as a discipline, the fact that it combined medicine and surgery with superb diagnostic techniques. "Where else," as he said in a profile that appeared in Roche Medical Image in 1968, "can you, in a single morning, relieve one patient from the agony of urinary obstruction, change the sexual characteristics of another, and arrest cancer in a third?"

Summers were spent working as a ship's doctor on a Mississippi River steamboat, the Gordon C. Greene.

Following graduation, Dr. Lattimer entered the surgical trenches, treating every conceivable kind of wound and trauma as a rotating (surgical) intern at Methodist-Episcopal Hospital in Brooklyn. He returned to Columbia to join the faculty as an assistant in urology (and resident at the Squier Urological Clinic), earning an Sc.D. degree along with the prestigious Smith Prize in 1943. But trouble brewing overseas put a hold on his academic career and thrust him into history's path.

From Nottingham to Normandy

Joining the armed forces, he selected the Air Force until friends pointed out that Air Force personnel did not do any major surgery. He got himself transferred to the Army (thanks to the intercession of a helpful young medical officer at the Pentagon named Michael DeBakey, who later made something of a



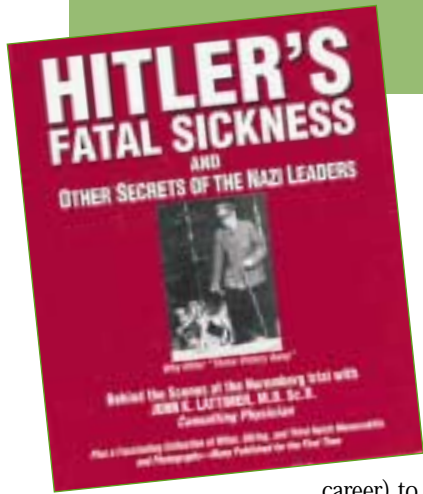
name for himself in cardiac surgery). His six weeks of training at Carlisle Barracks were anything but basic. Realizing that the vast majority of fledgling medical officers had no experience in treating gunshot wounds, he pitched in to help. An expert marksman, he also participated in Army wound ballistics experiments at the anatomy lab at P&S to establish what the Germans were doing to make their bullets tumble and tear into their human targets.



John K. Lattimer '38 with his mother and a classmate in front of Bard Hall at his P&S graduation



A young surgical specialist and hospital train commander, John K. Lattimer '38, during World War II



Dr. Lattimer with the president of Argentina, center



Sent overseas to Nottingham, England, he bided his time before the impending invasion by, among other endeavors, training a drill team of nurses, thereby attracting the attention of Winston Churchill, his picture making it (for the first of three times in his career) to the front page of the New York Times.

All fun and games came to a sudden and dramat-



Dr. Lattimer drilling Army nurses in preparation for the Normandy Invasion, 1944, in the photo that made the front page of the New York Times

ic end on D-day. Dr. Lattimer recalls the experience of treating the enormous number of seriously wounded casualties of the Normandy Invasion at makeshift evac hospitals ashore and back in Great Britain as “a terrible, terrible time.” With hundreds of evacuees

suffering multiple life-threatening wounds to kidney, bladder, and genitals and limited blood plasma available, he and his colleagues had to perform triage, operating on those most likely to survive. He worked fast and furiously and, on occasion, had to confront a pistol in the trembling hand of a GI whose buddy hadn't been picked.

When, at last, the Allies took the blood-soaked beachhead, Dr. Lattimer's unit went on to Antwerp, Kassel, Frankfurt, and, finally, Munich, where a large

German civilian hospital was re-tooled as the U.S. Army's 98th General Hospital and Dr. Lattimer took over as chief of urology/surgery.



John K. Lattimer '38, new chairman of the Department of Urology, circa 1955

The Lattimer family



“Boy, You Got to See This! This is History!”

Pastor Henry Gerecke, the Lutheran chaplain of the 98th General Hospital and a friend of Dr. Lattimer's, was transferred to see to the spiritual needs of high ranking Nazi prisoners pending trial and later to walk the condemned to the gallows. Held at first at an old resort hotel in Mondorf-Les-Bains in Luxembourg (American code name, “Ashcan”), the defendants were later sent to a prison in Nuremberg to face the tribunal. Chaplain Gerecke urged his friend to accompany him: “Boy, you got to see this! This is history!”

While pursuing his duties at the hospital, Dr. Lattimer was one of several physicians who tended to the prisoners' medical needs throughout the trial. In his compelling book, “Hitler's Fatal Sickness and Other Secrets of the Nazi Leaders,” published in 1999, the author taps his firsthand experience, as well as medical scholarship and speculation on the historical ramifications of Hitler's Parkinson's disease, which, he believes, ultimately led Hitler to make the rash military judgments that cost Germany the war. Much of the book is devoted to Dr. Lattimer's impressions of the defendants from the point of view of a physician. While most elicited his unqualified contempt, Albert Speer, the only defendant to admit his guilt and take responsibility for the crimes committed under his watch, earned Dr. Lattimer's respect. Impressed by Speer's obvious intelligence and a willingness to face the truth, the author paraphrases the observation of a colleague on the

American medical team, prison psychiatrist Douglas Kelley (who trained at the New York State Psychiatric Institute), who compared Speer “to a young race horse of great capability who was wearing blinders. He could see straight ahead and all he did was to run to his greatest capacity without realizing the

consequences.” The highest ranking and most notorious defendant, Reich Marshal Hermann Goering, earned Lattimer’s grudging avowal of a keen and wily intelligence. His wife served Goering well in his final hour, managing to cheat the hangman with a hidden ampoule of cyanide. The ampoule container itself is now a part of Dr. Lattimer’s large collection of memorabilia from the trial.

Winning the War Against Renal TB and Other Victories

Returning to the United States, Dr. Lattimer rejoined the urology faculty at P&S and the staff at Presbyterian and Babies hospitals. Likewise serving as an attending consultant in urology at the Veterans Administration hospital in the Bronx, he headed the research unit for genitourinary tuberculosis. Among the notable medical accomplishments of the post-War period, his team applied a new drug, streptomycin, later adding PAS and isoniazid, to help stamp out renal TB.

At P&S, meanwhile, Dr. Lattimer, whose busy urological practice included both adults and children, began to gather and study the considerable body of data his pediatric service had amassed over the years. Pediatric urology was “a sleeping giant waiting to be awakened,” he recalled in a videotaped interview conducted in 1982 by Emory Medical School Dean James Glenn, in the AOA series, “Leaders in American Medicine.” Dr. Glenn acknowledges Dr. Lattimer as one of the field’s founding fathers. Combining his diverse talents at scholarship, administration, and spreading the word, Dr. Lattimer stunned the old guard of the American Urological Association by filling a 2,500-seat auditorium at the annual meeting of the American Academy of Pediatrics with urologists and other practitioners from around the country eager to hear his findings. And so, almost overnight, the pediatric urology subspecialty was born, first at P&S, then nationwide and worldwide.

Rapidly rising in academic ranks, he was named professor and chairman of the Department of Urology and director of the Squier Urological Clinic in 1955 at age 39. In the course of his tenure, which lasted until his formal retirement in 1980, Dr. Lattimer increased the number of medical students who opted for what had previously been, in his words, “an underappreciated field” and raised millions in endowments (including substantial personal contributions) to support departmental research. Stressing more imaginative teaching methods, he urged urologists to think of themselves as “watchmakers, rather than plumbers.”

He helped awaken public awareness of the fact that prostate cancer is the leading cause of cancer deaths in men over 65, thus helping urology to come into its own. The then newly created Office of Urology at the National Institutes of Health awarded his department its first training grant. As governor of the American College of Surgeons, he ran that distinguished body’s educational and urological programs.

Dr. Lattimer likewise attracted national and international spotlight in the field. He was appointed by President Lyndon B. Johnson as a consultant to the World Health Organization in 1968 and rose to the presidency of the International Society of Urology and the American Urological Association, the first person ever to hold both high offices. He later served as president of the Clinical Society of Genitourinary Surgeons and the Society of University Urologists.

His publications in peer-reviewed journals number more than 350, and he is a former medical consultant to Time Magazine, guest editor for the Medical Examiners Gazette, and contributor to Encyclopedia Britannica. His professional encomia have included the P&S Alumni Gold Medal and the Dean’s Distinguished Achievement Award, the Morgenstern Foundation Freedom Award for his role at Nuremberg, the Great Medal of the City of Paris, and a medal honoring his role in the liberation of Paris personally given to him by the mayor of Paris (and now French president) Jacques Chirac. In 1987 he was the first recipient of the National Kidney Foundation’s award for outstanding achievement in urology and in 1996 he received the Keyes Medal, the top honor of the American Association of Genitourinary Surgeons. Named lectureships were established in his honor at five learned societies.

Lattimer, the Collector

While pursuing his multiple medical activities, Dr. Lattimer always found time to keep up his vast and diverse collection of historical objects—things, as he puts it, that “perpetuate your contact with the moment.” An avid history buff, he made the front page of the New



Dr. Lattimer with wife and son, Jon '77, at his inauguration as president of the International Society of Urologists, Versailles, France, 1973



John K. Lattimer '38 shaking hands with Paris Mayor Jacques Chirac (now president of France) when he received a medal commemorating his role in the 50th anniversary of the liberation of Paris



John K. Lattimer '38 accepting the Gold Medal from the Alumni Association, 1971

York Times a second time when, dressed up as his ancestor Ethan Allen, he led a re-enactment of the taking of Fort Ticonderoga. Dr. Lattimer has for many years helped coordinate the Metropolitan Museum of Art-sponsored Medieval Festival at New York's Fort Tryon Park as a public event, complete with jousting and tilting.

His collection includes the early-American swords, now on loan to the Metropolitan Museum of Art and the National Portrait Gallery; such World War II trinkets as German lugers, Goering's car armor, and original Hitler drawings; and memorabilia pertaining to the two assassinations that rocked American history, those of presidents Lincoln and Kennedy.

ing's car armor, and original Hitler drawings; and memorabilia pertaining to the two assassinations that rocked American history, those of presidents Lincoln and Kennedy.

Lattimer, the Assassination Sleuth

Dr. Lattimer's extensive holdings relating to the Lincoln assassination (including a blood-stained collar, a glove, and a cuff of the shirt Lincoln wore to Ford's Theater the night he died) and his research and writing on the subject increased his interest of the events of Nov. 22, 1963, the day President John F. Kennedy was shot in Dallas. The parallels between the Lincoln and Kennedy assassinations were astounding, as were the parallel legends of conspiracy. Tapping his own experience in ballistic research and his knowledge of firearms, Dr. Lattimer immediately got to work on a scientific forensic study of the circumstances of President Kennedy's death. Recognized for his knowledge in the field, he was the first non-government investigator granted access to the Kennedy autopsy materials, including X-rays, photographs, and bloodied clothing. On Jan. 9, 1972, Dr. Lattimer once again made the front page of the New York Times, with a photograph in which he demonstrates on his own head the location where the bullets struck the president. Based on his tests of the rifle used by Lee Harvey Oswald

John K. Lattimer '38 testing a rifle like the one used by Lee Harvey Oswald as part of his ballistics study of the Kennedy assassination



and other findings, Dr. Lattimer backed the report of the Warren Commission and completely discounted the elaborate tales of conspiracy theorists. His book, "Kennedy and Lincoln, Medical and Ballistic Comparisons of Their Assassinations," became a best seller when it was published in 1980.

In 1990, Dr. Lattimer published a third book, "This Was Early Englewood: From the Big Bang to the George Washington Bridge," detailing the history of his longtime home. He is currently working on a book on his silver swords.

Although one of his ancestors, Bishop Hugh Latimer (the family spelled its name differently then), was burned alive by Bloody Mary in 1550 (just outside what would later be Dr. Lattimer's window at Balliol College at Oxford) for refusing to recant his Protestantism and another fell at the Battle of Lexington, kicking off the American Revolution, he and his wife, Jamie, live peaceably in Englewood, N.J. in a grand old home that Dr. Lattimer laughingly labels "a urologist's paradise," complete with nine bathrooms. His daughter, Evan, followed in her mother's footsteps as an artist.



Associate Dean Anke Nolting with John K. Lattimer '38 at his 80th birthday party

Her two sons, Jon K.'77 and Douglas G.'84, have taken after their dad: Both are academic urologists.

A devoted alumnus and dedicated educator, Dr. Lattimer has guided the generosity of his patients toward upholding his legacy at P&S, where an endowed professorship-chairmanship in urology and two research funds bear his name. Having graciously declined a salary back in 1955 when he took over the reins of the Department of Urology, he discovered

to his dismay upon his retirement that he had also, albeit unknowingly, forfeited a pension. Should push come to shove, he could always work the old family farm (all 400 acres) or sell off choice holdings like his massive mastadon molar tooth or objects from his Napoleonic collection, including a little item of urological and historical interest that attracted an Italian television news team to interview him in 1992—the emperor's penis, allegedly excised by the Corsican pathologist who did the autopsy. "Urologists are vital," Dr. Lattimer quipped to the visiting Italians, "but pathologists always have the final word."

ALUMNI ASSOCIATION ACTIVITIES

Alumni Council

Among the highlights of the council dinner on Nov. 17, 1999, was a recital of songs by Bryan Winn'02 from the Bard Hall Players fall musical production, "Jesus Christ Superstar," and a salute to one of the stars of the P&S Alumni Office, Katherine Couchells, director of alumni affairs, who celebrated 25 years of service to the Alumni Association. Association president Marianne Wolff'52 read a statement of appreciation and Ms. Couchells rose to a round of standing applause. The evening's guest speaker was Timothy Pedley, chairman of the Department of Neurology, who talked on "The Neurological Institute at the Millennium." Founded in 1909 by Drs. Joseph Collins, Joseph Franklin, and Charles Elsberg and first located on 67th Street, the institute moved to its present location on 168th Street in 1909 and was amalgamated with Presbyterian Hospital in 1937. Building on its distinguished history, today's Department of Neurology at P&S is the largest in the United States with a full-time faculty of 100, 30 residents, and a support staff of more than 200. Among the departmental leaders saluted by Dr. Pedley are Dr. Stanley Fahn, who runs the largest movement disorders program in the world; Dr. J.P. Mohr, who runs the nation's largest stroke division; Dr. Stephan Mayer, head of critical care; Dr. Karen Marder, newly recruited chief of aging and dementia; Dr. Hiroshi Mitsumoto, recently recruited from the Cleveland Clinic to head up amyotrophic lateral sclerosis and muscle diseases; Dr. Martha Morrell, head of the epilepsy center; and Dr. Clifton Gooch, the new head of the EMG laboratory. A new division of general neurology has been created, under the leadership of Dr. Marcelo Olarte. Dr. Pedley said one of his major research challenges is to transcend the barriers between traditional departments and divisions. The renovation of the old NI building is well under way. Two major gifts will bolster the research effort: \$4.5 million from Mr. and Mrs. Stanley Tananbaum to establish a stroke center in their name and \$2 million from Wesley Howe to endow a Howe Professorship for Dr. Mitsumoto.



Katherine Couchells, director of alumni affairs, right, accepts a token of the association's appreciation for 25 years of service from association president Marianne Wolff'52

Regional Program

The P&S Alumni Association and the Babies Hospital Alumni Association co-sponsored a well-attended luncheon Oct. 10, 1999, hosted by John N. Schullinger'55 at the Grand Hyatt in Washington D.C., in conjunction with the fall meeting of the American Academy of Pediatrics.

The alumni association and the John Jones Surgical Society co-sponsored a lively reception and dinner at the Fairmont Hotel in San Francisco Oct. 12, 1999, in conjunction with the 85th Annual Clinical Congress of the American College of Surgeons. Eighty-four members of the P&S Alumni Association and the John Jones Society and their spouses were on hand to hear words of welcome from Eric A. Rose'75, chairman of surgery at P&S; Kenneth A. Forde'59, president of the John Jones Society; and Marianne Wolff'52, president of the P&S Alumni Association. The guest speaker, Dr. Jean C. Emond, surgical director of the Center for Liver Disease and Transplantation at New York-Presbyterian Hospital, discussed the establishment and success of the liver transplant program.

P&S family reunions at the 1999 Congress of the American College of Surgeons in San Francisco:

Mrs. Helen Feind, Carl "Kel" Feind Jr.'83, Carl Feind'50, and friend Joy Leighton



Surgeon brothers William D.'77 and Alan J. Spotnitz'70 (minus Henry'66)



Marianne Wolff'52 and son Daniel Schainholz'87



ALUMNI NEWS AND NOTES

By Marianne Wolff '52

1939

After 45 years on the pediatrics medical staff, the last 10 years as department chair, **Bernard H. Shulman** was honored when Interfaith Medical Center in Brooklyn named its pediatric library for him upon his retirement.

1945

George A. Hyman was co-author of Gabriel Nahas' landmark book, "Marijuana and Medicine," published in 1998.

1950

Warren Glaser serves as a volunteer physician for the uninsured and homeless in Rochester, N.Y., in a program sponsored by the sisters at St. Joseph.... "The Mindbody Prescription," published by Warner Books, is **John E. Sarno's** third book on psychosomatic medicine; this volume focuses primarily on psychogenic musculoskeletal pain disorders.

1951

Frank E. Iaquina received the John C. Leonard Award from the Association for Hospital Medical Education, a national society of directors of medical education, of which Frank is a past president. His award was given for "outstanding contributions and leadership in medical education for more than 40 years in the greater New York area and nationally, as well as influence at the level of graduate medical education accreditation and the Educational Commission for Foreign Medical Graduates."

1952

A member of the faculty at Boston University, Harvard, and Dartmouth medical schools, **Munro H. Proctor** received the Denis Burkitt Fellowship Award from the Royal Society of Tropical Medicine & Hygiene in London for his epidemiologic studies of non-infectious diseases in West Africa. "Mun" is also a consultant for WHO, USAID, and Project Hope. Each winter he spends several months mentoring U.S. medical students at a mission hospital in Cameroon.

1956

Clinical professor of psychiatry at the University of California at San Diego, **Robert L. Tyson** is serving a three-year term as secretary-general of the International Psychoanalytical Association. Bob continues his private practice of psychoanalysis in La Jolla.

1957

George M. Burnell was selected to participate in an AMA program for educating physicians in end-of-life care. The program was given in Atlanta in February 1998.... Professor of medicine at both affiliates of the University of Medicine & Dentistry of New Jersey, **Norman H. Ertel** has been appointed chief of the combined medical services at the VA NJ Health Care System, comprising two recently integrated VA hospitals.

1960

Peter B. Dunne is the interim chairman of the Department of Neurology at the University of South Florida.

1965

Tom Delbanco has been named Master of the American College of Physicians. Another honor he received is the dean's award at Harvard Medical School for his work in support of women faculty. Tom is professor of medicine at Harvard and chief of the Division of General Medi-

cine and Primary Care at Beth Israel Deaconess Medical Center.... **Robert P. Lisak** has been appointed editor of the Journal of Neurological Sciences, the official publication of the World Federation of Neurology.

1968

Located in Rockville, Md., **Daniel Davis** works full time as a medical officer in the reproductive/urology division of the FDA. His primary areas of interest are drugs for STD prevention, contraceptive agents, female sexual dysfunction, and hormone replacement therapy.

1970

Donald O. Quest is chairman of the American Board of Neurological Surgery.... **Sally K. Severino**, professor of psychiatry and vice chairwoman of psychiatry at the University of New Mexico Health Sciences Center, has been appointed president of the American College of Psychoanalysts, the first woman to hold that position.

1975

The Abra Camer Blood Resources Association presented its Alpha Award to **James Bussel** for his contributions to immunohematology.

1977

Susan B. Bressman is chairwoman of neurology at Beth Israel Medical Center in New York.

1978

Susan Rattner is clinical associate professor of medicine and associate dean for academic affairs at Jefferson Medical College of Thomas Jefferson University. Susan and husband Kenneth Mendel have two teen-age daughters.... **Michael Reynard**, a faculty member at UCLA, holds a patent for surgical instruments used in eye surgery (phacoillumination). In his extramedical life, he authored "Money Secrets of the Rich and

Famous," published by Allworth Press in New York.

1980

Danielle Engler is director of Columbia University's dermatology clinics, located on Atchley 7.

1981

Joel M. Zinberg, associate professor of surgery at Mount Sinai Medical School in New York, is keeping up his connections with Columbia by teaching at the Columbia University law school.

1983

Martin A. Weinstock has been promoted to full professor of dermatology at Brown University.

1984

Averil Ma has received the Cancer Research Institute Scholar's Award for his work on a mouse model for interleukin 15 deficiency and the effects of this mutation on innate immunity. Averil is on the Department of Medicine faculty at the University of Chicago....**Steven Neustein** is clinical associate professor of anesthesiology at Mount Sinai Medical School in New York.

1985

David Abis has been appointed director of pathology at the Intracoastal Health Systems in West Palm Beach, Fla. He is board-certified in pathology and cytopathology.

1986

Craig H. Friedmann and family have moved back to New Jersey. Craig is the occupational physician for Exxon, covering the Far East. This entails frequent trips to Japan, Hong Kong, Singapore, Thailand, Malaysia, and Australia. One reason he loves his job is that he does not have to deal with managed care!...The first American Burn Association-Westaim

Research Fellowship at a faculty level has been awarded to **James C. Jeng**. The project will study "determination of burn depth conversion and wound bacterial translocation as a function of the adequacy of resuscitation from shock." He is on the faculty at Washington Hospital Center in Washington, D.C.

1989

Samuel Denmeade received an AFLAC Young Scientist Award from the American Association for Cancer Research. Sam is assistant professor of medical oncology at Johns Hopkins.

1991

Bryan A. Liang's book, "Health Law and Policy," has been published by Butterworth-Heinemann. It serves as a reference source for health providers, lawyers, and others....The Department of Pediatrics at Columbia-Presbyterian has appointed **Daniel S. Schechter** medical director of its Therapeutic Nursery/Parenting Center. Dan is also on the faculty of the Parent-Infant Program of the Columbia University Center for Psychoanalytic Training and Research. A board-certified psychiatrist, he completed a clinical fellowship in child and adolescent psychiatry and is a postdoctoral research fellow in the Department of Developmental Psychobiology at the New York State Psychiatric Institute. He received a Presidential Scholar Award from the American Academy of Child and Adolescent Psychiatry, the Edward J. Sachar Award for Clinical Excellence, and the Viola Bernard and Housestaff Research Awards from the Department of Child and Adolescent Psychiatry at the Psychiatric Institute. He also has been appointed to the College of Research Fellows of the International Psychoanalytical Association. His research interests include violence prevention and the study of

influences on parental perception, as related to affect regulation and attachment behavior between mother and child.

1998

Francine C. Wiest successfully ran for the sole seat occupied by a resident on the AMA Council on Medical Education.



Correction

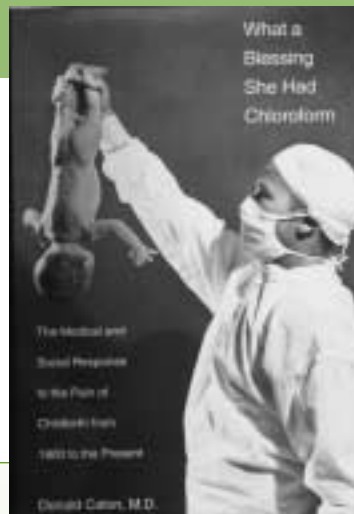
Arnon Krongrad '84 was misidentified as Arnon Kronberg in the Winter 2000 issue. He is shown here with his wife, Ruth, after receiving the 1999 Physician Health Care Hero award from the greater Miami Chamber of Commerce Health Industry Group for his work as founder and director of the South Florida Prostate Cancer Project. He is chief of urology at the Miami VA Medical Center.

Send news and photos to

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DOCTORS IN PRINT

**“What a Blessing She Had Chloroform.
The Medical and Social Response
to the Pain of Childbirth
from 1800 to the Present”**



**By Donald Caton '62
Yale University Press,
1999, 288 pp.**

Review by Peter Wortsman

Ask my wife, an ordinarily polite and mild-mannered woman, about the joys of natural childbirth and she's likely to lose her cool and spew a string of unprintable expletives. Having twice watched helplessly as she wailed and flailed in agony, waiting for the anesthesiologist (who in both cases never showed up), with nothing for me to do but whisper: "Breathe!", I found great solace in the compelling account by Donald Caton '62 of the interplay between medical science and social values at the mouth of the birth canal.

Part sociology, part history, part biography, "What a Blessing She Had Chloroform" is written with insight, wisdom, and wit, not to mention consummate narrative skill. From his doubly qualified clinical vantage point as professor of anesthesiology and of OB/GYN at the University of Florida, Dr. Caton looks back with scholarly rigor and philosophical candor on the medical advances, personalities, and ideas that determined the changing attitude toward, and treatment of, mothers-to-be.

Pain was the primary impetus for change, caution being the key proviso. The advent of anesthesia and its application to obstetrics came, the author reminds us, as "medicine was just emerging from its own dark ages."

"Western European society made a significant advance on Jan. 19, 1847," Dr. Caton writes, "when James Young Simpson, a Scottish obstetrician, administered diethyl ether to facilitate delivery of a child to a woman with a deformed pelvis." Simpson, the brash and flamboyant doctor who kicked things off, was the first of a colorful cast of characters—physicians and patients—who battled bravely for the relief

of obstetric pain.

"Although historically," Dr. Caton points out, "physicians discovered what *could* be done, it was ultimately the patients who decided what *would* be done." Leading ladies on the patient side of this great medical debacle include Fanny Appleton Longfellow, the poet Henry W.'s wife (the first woman in the United States to be anesthetized for childbirth), and Great Britain's illustrious Queen Victoria, who, opting for ether at the birth of her second born, put her royal stamp of approval on the practice. Among the other early health-care heroes are Mrs. Longfellow's dentist, Dr. Nathan Cooley Keep, who dared administer the ether when no willing medical doctor could be found, and Queen Victoria's anesthesiologist, Dr. John Snow, who honed obstetric anesthesia into a science and an art.

On the scientific front, Germany led the way in medicine in Europe. "It was German clinicians," the author tells us, "who first demonstrated the potential effect of drugs on the unborn child." Americans brought back the new knowledge. Isaac Taylor, a professor of obstetrics at P&S, introduced hypodermically administered morphine for labor pain in this country.

While the science of anesthesia advanced, society on both sides of the Atlantic was compelled to reflect on its attitudes toward pain. Given the frequent association of pain in the Judeo-Christian tradition with sin and divine punishment and the tendency of secular authority to employ the threat of pain to establish order, conservative elements, including prominent members of the medical establishment itself, put up multiple roadblocks

to the speedy application of medical findings in this domain. And, Dr. Caton says, public response to anesthesia has continued to vary with the perception of childbirth as "natural" or "pathologic."

Latter-day key players in the evolution of birthing politics include the English obstetrician Grantly Dick Read, author of "Childbirth Without Fear," who, reacting to the impersonal nature of hospital obstetrics, helped make the notion of "natural childbirth" a household word. The French obstetrician, Fernand Lamaze, stole the fire with his book, "Painless Childbirth," published in 1956, based on his observations of Russian Pavlovian methods. P&S alumnus Benjamin Spock '29, a pediatrician, supported the notion of patient responsibility in the face of medical authority with his popular "The Common Sense Book of Baby and Child Care." Back in Washington Heights, meanwhile, another illustrious P&S graduate, the legendary Virginia Apgar '33, professor of anesthesiology at P&S, brought the newborn back into the equation when she developed her now famous evaluation scale to assess the health of the neonate.

Various passionate proponents of nature and science, medicine, and common sense continue to wrangle over the management or acceptability of pain at childbirth. Addressing patients and physicians alike, Dr. Caton pulls all the threads together in his eloquent conclusion: "Childbirth is a momentous event. No one wants it to hurt. On the other hand, no one wants to diminish its importance. It is reassuring to realize that patients find ways to preserve the meaning in childbirth even in the absence of pain and suffering."